South Dakota State Plan for Nutrition and Physical Activity

To Prevent Obesity and Other Chronic Diseases

2006

HEALTHY SOUTH DAKOTA

Live Better. Grow Stronger.

South Dakota State Plan for Nutrition and Physical Activity

To Prevent Obesity and Other Chronic Diseases

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South Dakota Department of Health, Secretary

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Dear South Dakotans:

The South Dakota Department of Health is pleased to present the first ever Statewide Nutrition and Physical Activity Plan. The plan is a product of a broad group of stakeholders from across the state. The group identified strategies to promote and increase opportunities for physical activity and healthy eating to prevent and reduce overweight and obesity across the lifespan.

The problem is extensive, with more than one third of our youth and over half of the adults in South Dakota either overweight or obese. Across the state citizens, caregivers, schools, youth organizations, communities, workplaces and health care organizations are acknowledging the seriousness and far reaching impact of this epidemic and recognizing that something must be done.

The Nutrition and Physical Activity Plan gives each one of us a place to start to combat the obesity epidemic. Its objectives and strategies offer suggestions for incorporating nutrition and physical activity into our lives and assuring that the environments we live and work in encourage healthy lifestyles. Over time it can help shape how we think, work, live and play with family and friends to make quality of life as important as quantity of years.

Thank you to the committed stakeholders that have been involved in developing this plan and helping to create a vision for lifelong healthy eating and physical activity. Everyone has a role to play in a Healthy South Dakota and we encourage you to review the strategies in the enclosed plan and identify ones you can support and implement in your community, agency or organization. Working together, we can achieve the vision of a Healthy South Dakota.

Sincerely,

Doneen B. Hollingsworth
Secretary of Health

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Acknowledgements

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Executive Summary

The "South Dakota State Plan for Nutrition and Physical Activity to Prevent Obesity and Other Chronic Diseases" was developed by a large group of diverse partners with input from the general public obtained through a series of public forums. The plan was developed to address the increasing problem of overweight and obesity and the subsequent risk for chronic diseases such as cardiovascular disease, hypertension, and diabetes. The development was supported by a Centers for Disease Control and Prevention (CDC) grant.

Overweight and obesity are increasing among all segments of South Dakota's population. In 2004, 61.8% of South Dakota adults were overweight or obese, an 8.8 percentage point increase in just 11 years. For the 2004-2005 school year, 33.0% of South Dakota students were at risk of overweight or overweight. Similar numbers are reported by South Dakota data for preschool age children. All rates are above the Healthy People 2010 goals and moving the wrong direction.

The plan focuses on five science-based strategies that have proven to reduce obesity or other chronic diseases. These are:

- Increased Physical Activity
- Reduced Television Time
- Increased Consumption of Fruits and Vegetables
- Increased Breastfeeding
- Improved Calorie Intake and Expenditure

The plan covers a five-year time frame and is divided into five target populations with goals, objectives, and strategies for each. The following is a summary of the goals and the top two objectives from each of the five populations.

Parents and Caregivers

Goal: South Dakota parents and caregivers will provide a healthy environment for children that promotes physical activity and healthy eating.

Example objectives:
1.1 By 2010, increase to 40% the proportion of children ages 2 - 18 who consume five or more servings of fruits and vegetables per day.
1.2 By 2010, reduce to 20% the proportion of preschool children, school-age children, and adolescents who are at risk of overweight or overweight.

Schools and Youth Organizations

Goal: Provide environments for youth to learn and practice skills today for a lifetime of fitness and healthy eating.

Example objectives:
2.1 By 2010, all South Dakota K-8 schools will provide 150 minutes per week of physical education and 25% of South Dakota high schools will provide 225 minutes per week of physical education.
2.2 By 2010, establish comprehensive, sequential K-12 health education, focusing on nutrition education and physical activity in all South Dakota schools.

Workplace

Goal: To promote healthy lifestyles and reduce chronic disease in South Dakota workplaces through healthy eating and physical activity.

Example objectives:
3.1 By 2010, establish 50 additional workplace wellness programs that support an environment for healthy eating and physical activity.
3.2 By 2008, develop and implement a statewide data collection system to evaluate the impact of South Dakota workplace wellness programs.

Community

Goal: To promote healthy lifestyles and reduce chronic disease in South Dakota communities through healthy eating and physical activity.

Example objectives:
4.1 By 2010, provide documentation of 25 South Dakota communities that have evaluated their policies and environments concerning healthy eating and physical activity and the changes made to help enhance the community's wellness.
4.2 By 2008, develop and implement a statewide data collection system to evaluate the nutrition and physical activity policies and environments of South Dakota communities.

Health Care

Goal: Increase support for physical activity and healthy eating within South Dakota health care systems and among health care providers in order to achieve a healthy Body Mass Index (BMI) for all South Dakotans.

Example objectives:
5.1 By 2007, provide obesity prevention resources and tools to 90% of practicing health care providers in South Dakota.
5.2 By 2010, increase by 75% the proportion of South Dakota medical, nursing, and allied health programs, where appropriate, that include core competencies in obesity prevention, assessment of weight status, and weight management in their curricula.

See the full plan for additional objectives and strategies for each objective.

The plan is meant to be a road map for stakeholders and other organizations, agencies, and interested individuals. Various partners signed on to take leadership roles in implementing this plan, but additional organizations, communities, and individuals are needed to implement this plan and reduce overweight and obesity in South Dakota.

Introduction

The South Dakota Department of Health and its partners are pleased to release the "South Dakota State Plan for Nutrition and Physical Activity to Prevent Obesity and Other Chronic Diseases." The plan was developed to address the emergent problem of overweight and obesity and the subsequent increased risk of chronic diseases such as cardiovascular disease, hypertension, and diabetes. Stakeholders from across the state collaborated, with support from a Centers for Disease Control and Prevention (CDC) grant, to develop this plan.

Planning Process

In 2004, the South Dakota Department of Health (SDDOH) received a capacity-building grant from the CDC. The purpose of the grant is to help states prevent obesity and other chronic diseases by addressing two closely related factors – poor nutrition and inadequate physical activity. The grant requires states to develop a comprehensive nutrition and physical activity

plan. A series of forums to gather public input were held and a statewide team of stakeholders was assembled. The stakeholders met several times to develop and approve the plan. SDDOH was the lead in the development of the plan.

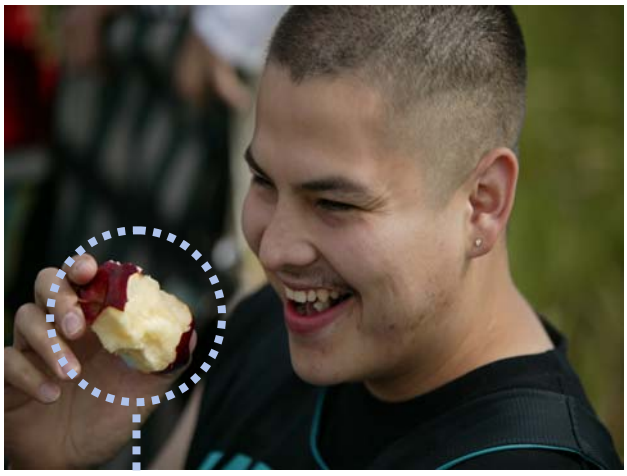
The strategies described in the plan address issues that were determined to be priorities for South Dakota. The stakeholders analyzed available data sources, public input from the forums, and current resources to determine target populations. Within each of these target populations, stakeholders were asked to develop achievable and measurable objectives and strategies. For each target population, the strategies include science-based nutrition and physical activity interventions. These interventions are based on individual change as well as environmental and policy change.

Organization of the Plan

The stakeholders chose five target populations for the plan: parents and caregivers, schools and youth organizations, workplace, community, and health care. The stakeholders prioritized the objectives within each target population based on the greatest impact and importance for the state. Thus, the objective with the highest priority is listed first, and so on. The approach for parents and caregivers involves strategies that provide children and adolescents environments for healthy eating and physical activity. South Dakota children spend significant quantities of time with caregivers other than their parents such as daycare providers, grandparents, and out-of-school programs, so the interventions also target these individuals and organizations. Within schools and youth organizations, South Dakota intends to establish physical education and health education policies using the South Dakota Model School Wellness Policy as a guide. The strategies for the workplace center on development

of workplace wellness programs that promote a healthy environment for physical activity and nutrition in the workplace. In communities, the focus is developing wellness plans for physical activity and nutrition that include environment and policy changes. The stakeholders also chose to target health care providers and health care systems. The strategies include obesity prevention resources, continuing education opportunities, and core competencies in curriculum offered by medical, nursing, and allied health programs.

Next Steps



This plan is meant to be a blueprint for the stakeholders and other organizations, agencies, and individuals interested in implementing these physical activity and nutrition strategies. In order to positively impact overweight and obesity in South Dakota, the plan is meant for statewide implementation. One of the key factors of consideration is that this will take involvement from individuals and state and local organizations and agencies. Partners in addition to those involved in developing the plan will be identified. The partners will implement certain objectives and strategies that their organizations and agencies have the resources to take on. While the strategies are broad, time should be taken at the state and local level to determine the tasks necessary to best implement these for each community and target group.

The developers of this plan are not alone in efforts to improve nutrition and physical activity for the state of South Dakota. The prevention sub-committee of the South Dakota

Comprehensive Cancer Control Plan identified nutrition and physical activity as two modifiable risk factors to lower the population's risk of cancers such as colorectal, stomach, breast, and prostate. The recently developed South Dakota State Nutrition Action Plan (SNAP) focuses on USDA programs such as school meals, Cooperative Extension, senior meals, Food Stamps, and the Special Supplemental Nutrition Program for Women, Infants and Children (WIC). The SNAP objectives and tactics are compatible with this plan, which strengthens them both and increases opportunities for collaboration.

Understanding the Challenge

Defining Overweight and Obesity

The Centers for Disease Control and Prevention (CDC) defines overweight and obesity as ranges of weight that are greater than what is generally considered healthy for a given height.

Body Mass Index (BMI)

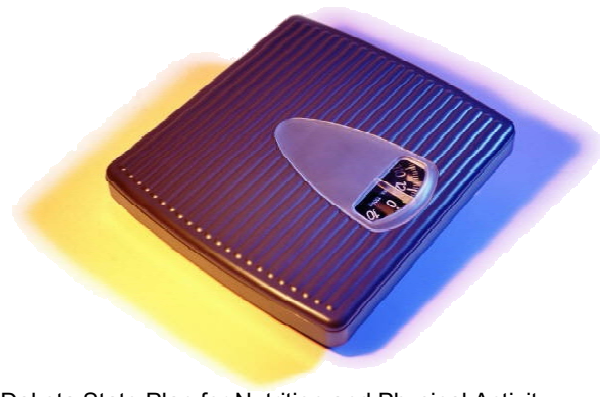
For adults, "overweight" is defined as a Body Mass Index (BMI) ranging from 25.0 to 29.9 and "obesity" is a BMI ranging from 30.0 and above.[1]

The BMI can be calculated using a person's weight in pounds and height in inches with this equation:

$$\text{BMI} = \frac{\text{Weight in Pounds}}{(\text{Height in inches}) \times (\text{Height in inches})} \times 703$$

For example, a person who weighs 220 pounds and is 6 feet 3 inches tall has a BMI of 27.5.

$$\frac{220 \text{ lbs}}{(75 \text{ inches}) \times (75 \text{ inches})} \times 703 = 27.5$$



BMI	Weight Status/ Adults
Below 18.5	Underweight
18.5 - 24.9	Healthy Weight
25.0 - 29.9	Overweight
30.0 and Above	Obese

The BMI for children is defined differently in that it takes into account the different rates of growth depending on age and gender. For children ages two to twenty years, BMI ranges above a normal weight are defined as at risk of overweight and overweight. The following chart shows established percentile cutoff points to screen underweight and overweight in children and adolescents:

Underweight	BMI-for-age $\leq 5^{th}$ percentile
Healthy Weight	BMI-for-age >5th to <85th percentile
At Risk of Overweight	BMI-for-age $\geq$85th percentile to $<95^{th}$ percentile
Overweight	BMI-for-age $\geq 95^{th}$ percentile

The BMI is a screening method recommended by CDC to use in making a determination for both child and adult body weight relative to risk of chronic disease. However, the BMI is not the only indicator of health risk due to overweight or obesity. Other factors need to be considered as well when assessing one's risk of chronic disease. They include:

- Diet
- Physical Activity
- Waist Circumference
- Blood Pressure
- Blood Sugar
- Cholesterol Level
- Family History of Disease

The National Heart, Lung and Blood Institute (NHLBI) guidelines offer an assessment for risk factors in adults that include three key measures:

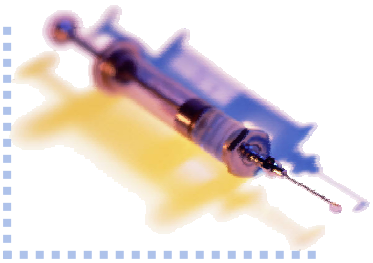
- Body Mass Index,
- waist circumference, and
- risk factors for diseases and conditions associated with obesity.

Disease risk for type 2 diabetes, hypertension, and cardiovascular disease is increased for women with a waist circumference of greater than 35 inches and for men with a waist circumference of greater than 40 inches. The waist circumference risk is also accumulative to the BMI risk. For example, while an overweight person with an acceptable waist circumference would be at increased risk for these chronic diseases, an overweight person with a high waist circumference would be at high risk. The NHLBI website http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/index.htm offers the assessment for those interested in learning more about overweight and obesity as they relate to health risk factors.[2]

How did we get here?

To examine and understand the issue of overweight and obesity in our culture, we need to look at the history and social-economic changes that our society has experienced over a period of decades.

All aspects of life between the late 19th and 20th centuries have evolved dramatically. The growing, processing, and distribution of food has provided more access to refined carbohydrates and high fat food. The movement away from an agrarian society to one of a more sedentary, technological, and service-oriented job sector has provided employees with jobs requiring less physical activity. Television and mechanized transportation, admittedly wonderful technologies, have caused generations of Americans to be less active. In addition, overall improvement in society's standard of living has led to easier access to high fat foods. Convenience stores and fast-food restaurants make high-calorie and super-sized foods readily available.



Those public health advocates fighting to control disease recognize these societal level barriers as some of their greatest battlefields. The experience of the last 30 years tells us that focusing on individual behavior change has not been effective. According to the *Health, United States 2005*, a CDC report, 31 percent of adult Americans are considered obese, with over 37 percent engaged in no physical activity.[3] The March 2005 article in the New England Journal of Medicine reports that Americans are spending between $70 billion and $100 billion annually on heath care, largely to cover treatment for overweight and obesity-related illnesses such as heart disease, diabetes, and arthritis. The same report speaks to the increase in the number of children with type 2 diabetes or high blood pressure, in part attributable to overweight and obesity.[4] Future efforts to prevent chronic diseases related to lack of physical activity and poor nutritional choices must address a broad range of structural, social, and economic barriers.

Not only is obesity costing Americans their health, it is also hitting them in the pocketbooks. "These are very expensive patients," said Kenneth Thorpe, professor at Emory University's public health school in a June 2005 Reuter's interview. "If insurers and employers are serious about reining in health care spending, then obesity prevention should be at the top of their agenda."[5]

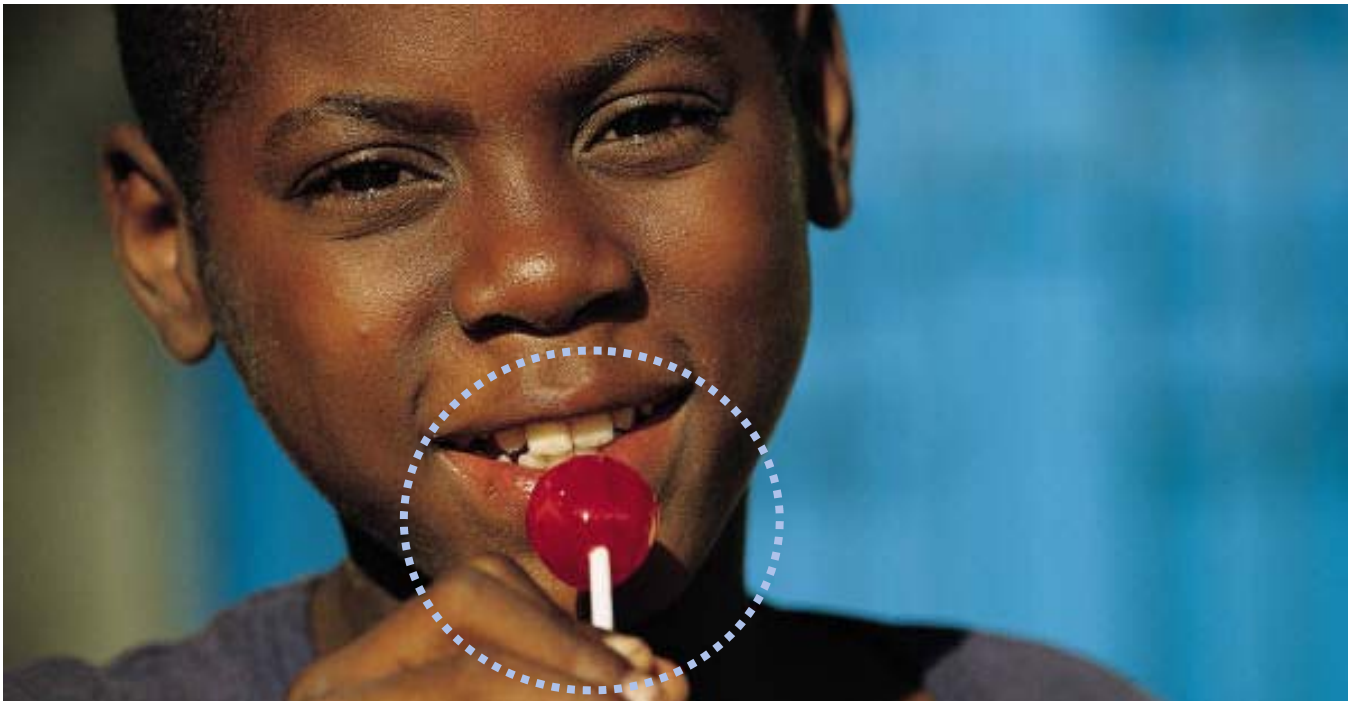
So where and how do we fashion solutions? The answers may be initiated in a number of arenas, from how we market better choices such as fruits and vegetables to increased physical activity and policy planning at all levels. More specifically, recognizing and providing opportunities for nutrition education and for physical activity by developing more pedestrian-friendly neighborhoods and limiting children's time in front of the TV and computer may offer solutions that lead to a healthier population.

The factors that contribute to overweight and obesity are a composite of a number of human behaviors. Researchers at Emory University in Atlanta are studying why people overeat or do not pursue physical activity. Kenneth Thorpe, chair of the Department of Health Policy and Management at Emory, says, "We can focus on obesity and we should be.... We need the same type of societal attention on this issue that we gave to smoking 20 years ago."[5] The lack of pleasure, habits, interpersonal relationships, cost, time, and child and family care are all contributors to the human behavior that leads to the problem. A community's environment and policy choices also contribute to the problem. Lack of sidewalks, greenways (undeveloped land usually in cities, set aside or used for recreation or conservation), and law enforcement in a community can dissuade its members from pursuing outdoor physical activity, thus leading to more sedentary lifestyles.

Where are we headed?

According to the CDC's, *Health, United States 2005,* life expectancy is at an all-time high in the U.S. The same report explains that deaths from heart disease, cancer, and diabetes are down, contributing to an average life expectancy of 77.1 years for Americans.[3] The Social Security Administration has even predicted that life expectancy in the 21st century will continue to rise substantially due to the improved health of Americans. Such factors as medical advances, improved workplace safety, and less smoking are contributing factors according to former Health and Human Services Secretary Tommy G. Thompson.

Not all health care experts are as optimistic, however. An article in the March 2005 New England Journal of Medicine reports that life expectancy in the United States may actually decrease because of overweight and obesity. "Our goal for this article is to make people aware that we all have underestimated the negative impact of obesity," said S. Jay



Olshansky, epidemiologist at the University of Illinois, Chicago School of Public Health and lead author of the article.[4]

Even the optimists realize that if current trends of poor nutrition and lack of exercise continue, Americans are at risk of less healthy and shorter lives. For the first time in our history, the next generation may live shorter lives than their parents. Professor Olshansky's University of Illinois study determined that obesity currently reduces the life expectancy by approximately four to nine months. This research study also predicts that the rapid rise in childhood obesity will have life shortening effects, enough to offset any improvements in longevity gained by biomedical technology.[4] Nearly 62.0% of South Dakota adults are overweight or obese. The obesity rate for South Dakota adults rose by 8.6% from 1993 to 2004.[6] And our children are in danger as well. Thirty-three percent of students are either at risk of becoming overweight or overweight.[7] In South Dakota, thirty-two percent of limited-income children ages 2 to 5 years are either at risk of becoming overweight or overweight.[8]

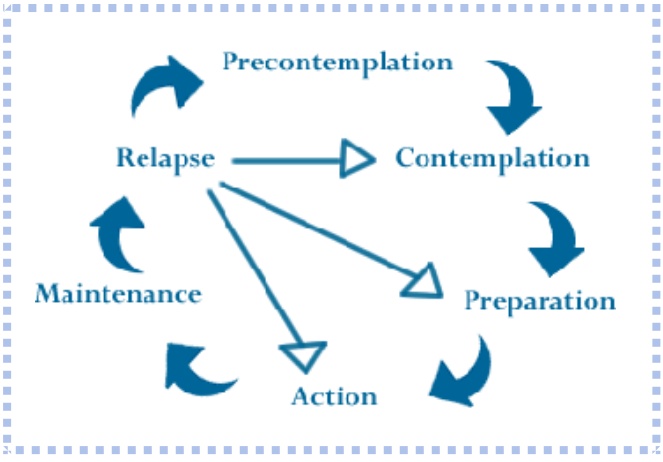
Can this trend be reversed? Looking to sociology, models of human behavior help to explain how individuals make choices and break habits. Looking beyond the individual to society and how its environmental and social policies affects human behavior may also hold the key.

Transtheoretical Model of Behavior Change

To find answers in individual human behavior, the Transtheoretical Model may be a key to impacting individual choices regarding one's lifestyle. This model describes five stages of behavior change. The Transtheoretical Model was developed in the late 1970's and early 1980's by James Prochaska and Carlo DiClemente at the University of Rhode Island. These stages of change are identified as:

- Precontemplation: Not yet acknowledging that there is problem behavior.
- Contemplation: Acknowledging that there is a problem but not yet ready or sure of wanting to make a change.
- Preparation/Determination: Getting ready to change.
- Action/Willpower: Changing behavior.
- Maintenance: Maintaining the behavior change.

Using this model as a guiding factor to individual behavior change, strategies can be formulated that will assist and motivate people to change lifestyle and make healthier choices. Self-motivating activities such as keeping journals of calorie intake, real-time records of physical activity, and promoting small but effective lifestyle changes such as using stairs instead of elevators are beneficial.



individual strategies. Individuals progress through different stages and at different rates on their way to successful change. Each individual must decide when a stage is completed and when to move to the next stage.

The Transtheoretical Model may be useful in evoking change in individuals and their lifestyle choices; however, this issue is more complicated than an individual's choice-making.

The Socio-Ecological Model

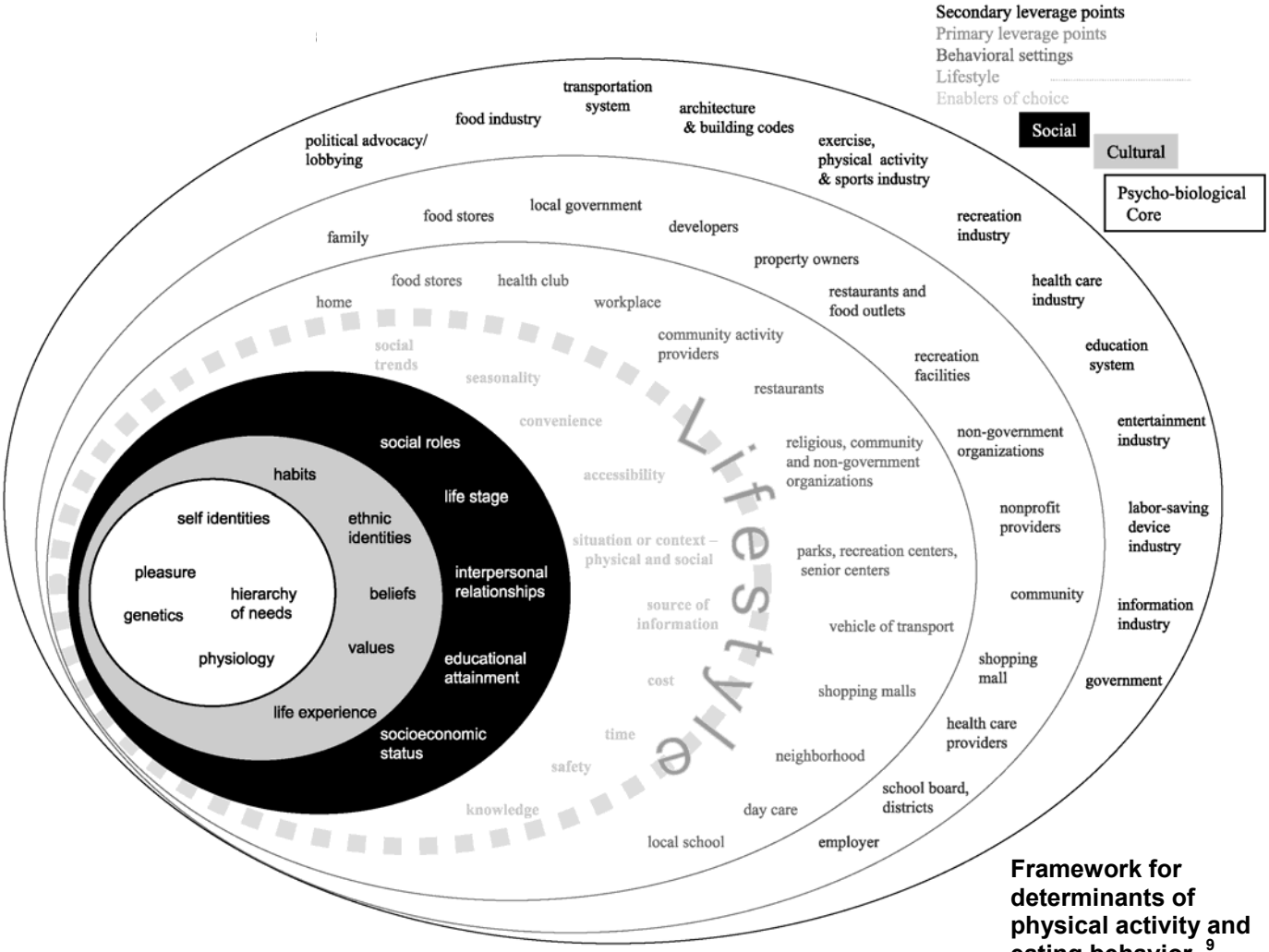
The physical and social environments in which people live play a large role in influencing individual behavior. The Socio-Ecological Model focuses upon the larger universe of influences on human behavior. It offers strategies for potential behavior changes at various levels.

The Socio-Ecological Model holds promise in addressing the problem of societal overweight and obesity. This model explains how lifestyle choices are ultimately individual choices, but these choices are made in the midst of the individual's overall environment.

The Socio-Ecological Model focuses on the opportunities for successful environmental interventions, and turning those into lifestyle changes:

- How do we motivate the **individual**?
- How can we interact with **families and peer groups** to provide supports to the individual?
- How can our **institutions**, schools, religious groups, and businesses play roles in promoting healthy choices?
- Can coordination of **community** groups offer answers?
- Where and how far do we take **public policy** to solve this lifestyle choice issue?

A good example of public policy change is demonstrated in planning projects throughout the country that integrate neighborhoods of homes and businesses to encourage walking and bike riding to schools and the workplace.



Framework for determinants of physical activity and eating behavior. [9]

Using the Transtheoretical and Socio-Ecological Models as guides for interventions, South Dakota has identified and will implement objectives and strategies that can influence individual attitudes as well as behaviors in larger populations. Strategies were formulated that encourage South Dakotans to make healthy lifestyle changes. Other strategies provide a broader scope to assist in changing environment and policy in schools, communities, workplaces, and the health care arena.

Burden of Overweight and Obesity

State Demographics

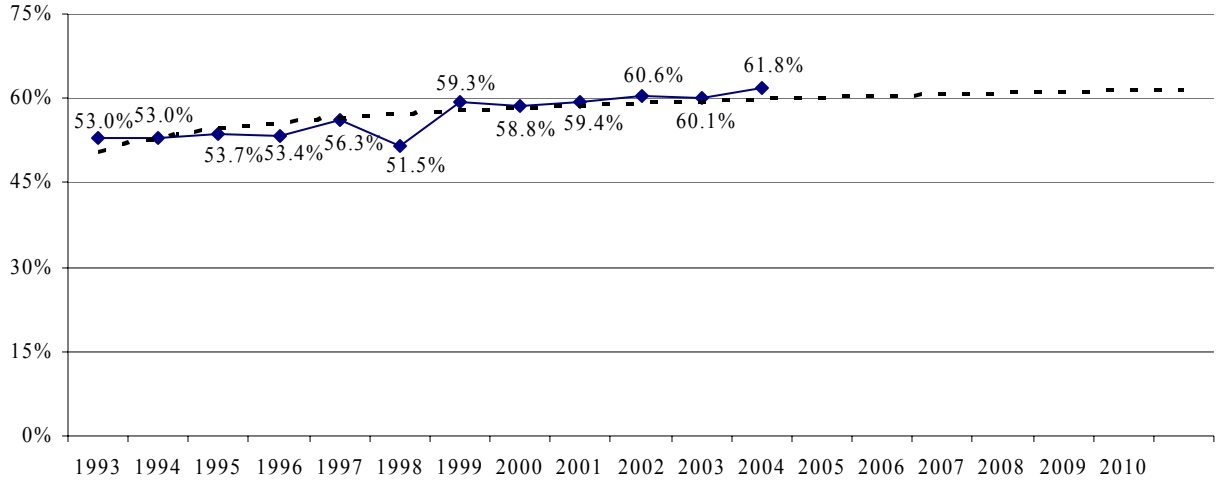
The state of South Dakota is one of the nation's most rural areas. The population of 770,883 people occupies a land mass of 75,885 square miles, or approximately 9.9 people per square mile. Only three cities top 25,000 in population. Nearly 60% of South Dakota's total population live in small, rural communities of 5,000 or fewer people, with communities of less than 500 people comprising a large portion of this population group. South Dakota is home to nine American Indian tribes comprising 9.0% of the state's population. Adults age 65 and older comprise 14.3% of the population, which is higher than the national average of 12.4%. At 13.2%, the number of South Dakotans living below the poverty level is slightly higher than the national average of 12.4%.[10] The rural nature and diversity of the state pose challenges in the development and delivery of obesity prevention strategies.

Prevalence of Overweight and Obesity

For the past few decades, the prevalence of overweight and obesity has steadily increased both nationally and in South Dakota. The national and state data available indicate a strong need for interventions to improve this problem that has reached epidemic proportions. The main sources of data available for South Dakota are the 2003 and 2004 Behavioral Risk Factor Surveillance Survey (BRFSS), 2003 Youth Risk Behavior Survey (YRBS), 2004-2005 School Height and Weight Report, and the 2004 Pediatric Nutrition Surveillance System (PedNSS).

Overweight in the BRFSS survey is reported as a BMI of 25.0 or above, which includes obese (30.0 or above). In South Dakota, the percentage of overweight adults has increased from 53.0% in 1993 to 61.8% in 2004 (Figure 1). This equates to a 8.8 percentage point increase in 11 years.[6] The percentage of adult South Dakotans who are overweight is slightly higher than the national average of 59.4%. The 2003 BRFSS shows that a significantly higher percentage of males are overweight than females, and American Indian females (76.0%)

Figure 1
Percent of Respondents Who Are Overweight Based on Body Mass Index, 1993-2004

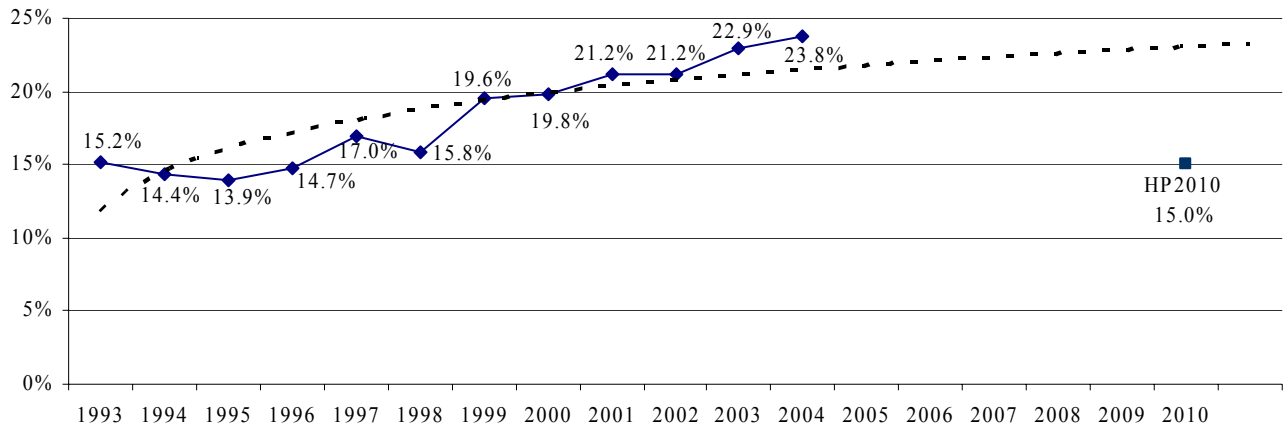


Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 1993-2004

report a significantly higher prevalence of overweight than do white females (51.4%). In South Dakota, 81.0% of respondents who have diabetes are overweight; 77.8% of respondents who have hypertension are overweight; and 74.9% of respondents who have high blood cholesterol are overweight.[11]

In South Dakota, 23.8% of adults were obese according to the 2004 BRFSS (Figure 2).[6] Those individuals with diabetes (46.0%), hypertension (36.2%), and high blood cholesterol (27.8%) experience higher rates of obesity according to the 2003 BRFSS. American Indians report a significantly higher prevalence of obesity than do whites (40.6% versus 22.0%).[11] The Healthy People 2010 Objective is to reduce the prevalence of obesity in adults to 15.0%.

Figure 2
Percent of Respondents Who Are Obese Based on Body Mass Index, 1993-2004



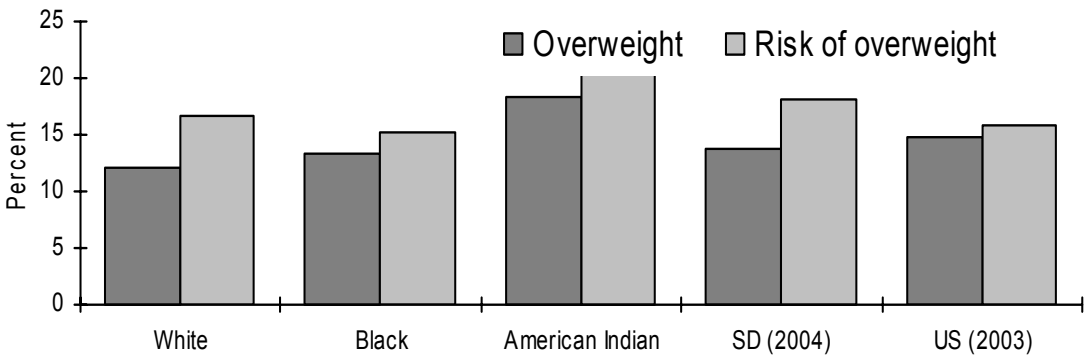
Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 1993-2004

Although the prevalence of overweight and obesity in South Dakota (60.1%) is not statistically different than the rest of the nation (59.4%), it is indicative of the need to address the issue at both the individual and environmental level.

Obesity has long been thought of as a chronic disease of adults only, but it is becoming an increasing problem for children. In 1998, South Dakota began collecting school height and weight data for school-age students. Since then, each year 110 - 228 schools have voluntarily submitted measurements on K-12 students. The sample size has grown from 13.0% of the state's students to 26.8%. Data from the 2004-2005 school year showed 16.4% are overweight and an additional 16.6% at risk of overweight, for a total of 33.0% of South Dakota students. Overall, there has been an increase in the overweight category from 15.1% in 1998-1999 to 16.4% in 2004-2005. By race, overweight among American Indians increased from 21.1% in 1998-1999 to 26.1% in 2004-2005.[12]

The SDDOH has collected PedNSS data from participants of the SDDOH WIC Program since 1995. In the 2004 PedNSS data, it was noted that 32.0% of children ages 2 to 5 years were at risk of overweight or overweight. By race, the prevalence of overweight children ages 2 to 5 years in South Dakota was 12.0% (n=695) for whites, 13.2% (n=34) for blacks, and 18.3% (n=450) for American Indians and Alaskan Natives (Figure 3).[8] This data for children suggests the likelihood of another generation of overweight adults who may be at risk for subsequent overweight and obesity related health conditions.

Figure 3
2004 South Dakota PedNSS
Prevalence of Overweight and at Risk of Overweight*
Among Children Aged 2 to <5 Years, by Race



*Overweight: >95th percentile weight-for-length or BMI-for-age; at risk of overweight: >85th-<95th percentile weight-for-length or BMI-for-age, CDC Growth Charts, 2000. 15% of children are expected of all above the 85th percentile (5% above the 95th percentile and 10% between the 85th and 95th percentiles).

Modifiable Risk Factors

In general, overweight and obesity result from an energy imbalance. Increased physical activity is one proven strategy that can impact the balance of caloric intake with expenditure. According to the 2004 BRFSS, 19.0% of adults reported no physical activities during the past month, although this percentage has been decreasing since 2000.[6] No leisure time physical activity increases with age, with the most pronounced increase occurring in adults ages 55-64. The percentage of adults with no leisure time physical activity generally decreases as household income increases. Adults with disabilities that require special equipment have an even higher prevalence of no leisure time physical activity or exercise at 45.1%.[11] In addition, in the 2003 BRFSS, 53.5% of South Dakota adults report doing less than 30 minutes per day of moderate physical activity, or less than five days per week of moderate physical activity.

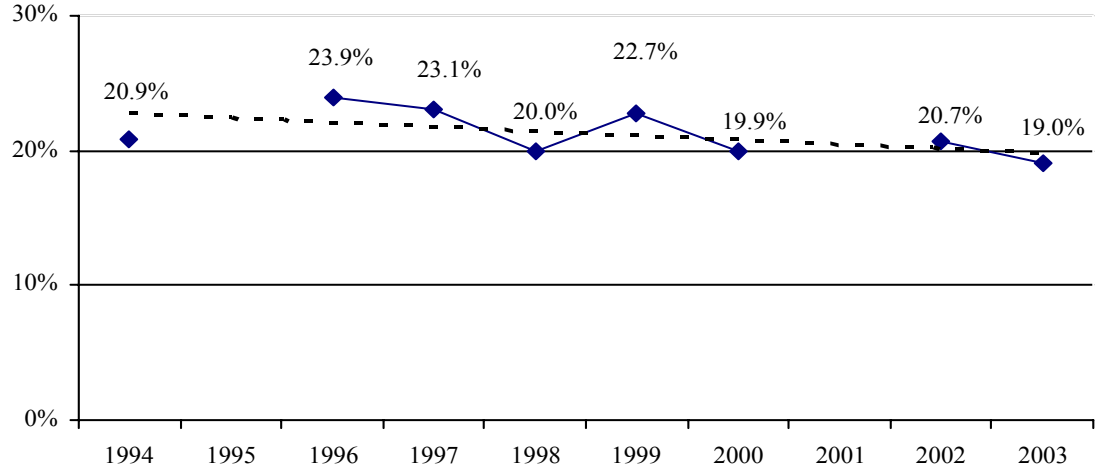
Those adults reporting fair or poor health status were at 70.0% for lack of moderate physical activity. The national average of those who reported having no vigorous physical activity was 74.4%. At 78.0%, South Dakota was significantly worse than the national average.[11]

In relation to inactivity, 52.0% of high school students watched two or more hours of television per day on an average school day.[7] According to the 2004 BRFSS, 69.3% of South Dakota adults watched two or more hours of television on an average weekday.[6]

Regarding the amount of physical activity in which high school students engaged, 62.0% exercised or participated in physical activities that made them sweat or breathe hard for at least 20 minutes on three or more days per week. In addition, only 27.0% of high school students had at least one day of physical education class per week at school.

Consumption of five or more servings of fruits and vegetables is another risk factor for which South Dakotans are falling short. The National Cancer Institute and CDC have set the goal

Figure 4
Percent of Respondents Who Reported Consuming at Least 5 Servings of Fruits and Vegetables Per Day, 1994, 1996-2000, and 2002-2003



Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 1994, 1996-2000, and 2002-2003

that 75% of children over the age of two and adults consume at least five servings of fruits and vegetables per day. South Dakota is significantly worse than the United States with only 19.0% of adults indicating that they consume the minimum of five servings of fruits and vegetables per day according to the 2003 BRFSS (Figure 4). There were no substantial differences in fruit and vegetable consumption between races, regions, or household income.[11] According to the YRBS, only 17% of high school students had eaten five or more servings of fruits and vegetables per day during the past seven days.[7]

An additional strategy to reduce obesity in children is breastfeeding. The Healthy People 2010 Objectives are to increase breastfeeding initiation to 75%, 50% at six months of age, and 25% at 12 months of age. The South Dakota 2004 data available from the National Immunization Survey showed initiation of breastfeeding at 68.6%, 34.7% at six months, and 16.0% at 12 months.[13] The 2004 PedNSS indicated breastfeeding initiation by race as 59.4% for whites, 60.9% for blacks, and 48.7% for American Indian. The data collected at six and 12 months showed similar results for race.

Chronic Diseases and Mortality

Obesity increases the risk of chronic diseases, such as hypertension, dyslipidemia, coronary heart disease, stroke, diabetes, and colorectal, breast, and prostate cancer.[14] The three leading causes of death in South Dakota in 2004 were heart disease (26.1%), cancer (22.9%), and cerebrovascular diseases (6.8%), all of which have dietary and physical activity risk factors. Heart disease was the leading cause of death in South Dakota for men and women alike, as well as whites.[15] According to the 2004 South Dakota Vital Statistics Report, the Years of Potential Life Lost due to premature deaths from these chronic diseases is as follows: heart disease (6,584); cancer (9,656); and cerebrovascular disease (911).[15]

Hypertension or high blood pressure is a reading of 140/90 mmHg or higher for persons without risk factors. For those with risk factors, the recommended levels are lower. High blood pressure causes the heart to work harder which can cause the heart to enlarge, blood vessels in the kidney to narrow and arteries to harden.[16] Almost 39.0% of obese adults in South Dakota have been told by a health professional that their blood pressure is high as compared to 24.8% of all respondents according to the 2003 BRFSS (Figure 5). Overall, the percent of South Dakota adults who have hypertension has been increasing since 1987 (Figure 5).[11] High blood pressure is often called the "silent killer" because there are usually no symptoms until there is a problem with the heart, kidneys or brain. High blood pressure usually lasts a lifetime once it develops, but it can be treated and controlled.[16]

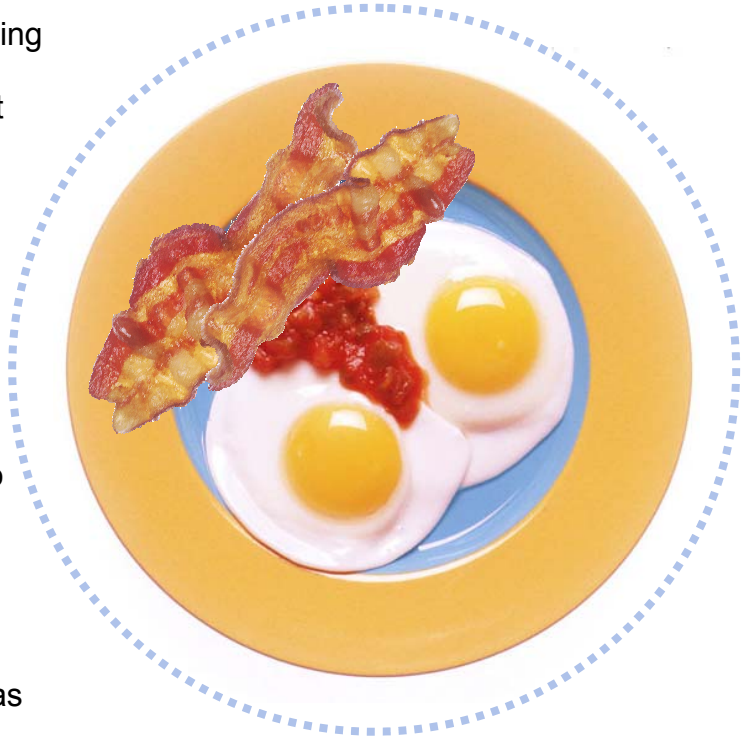
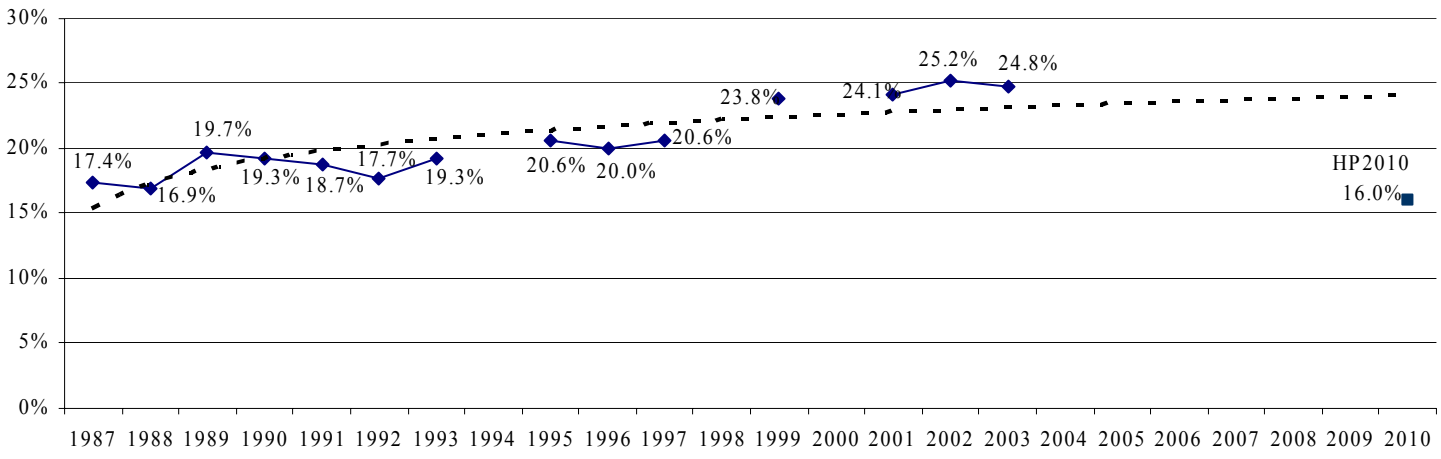


Figure 5
Percent of Respondents Who Were Told They Have Hypertension, 1987-1993, 1995-1997, 1999, and 2001-2003



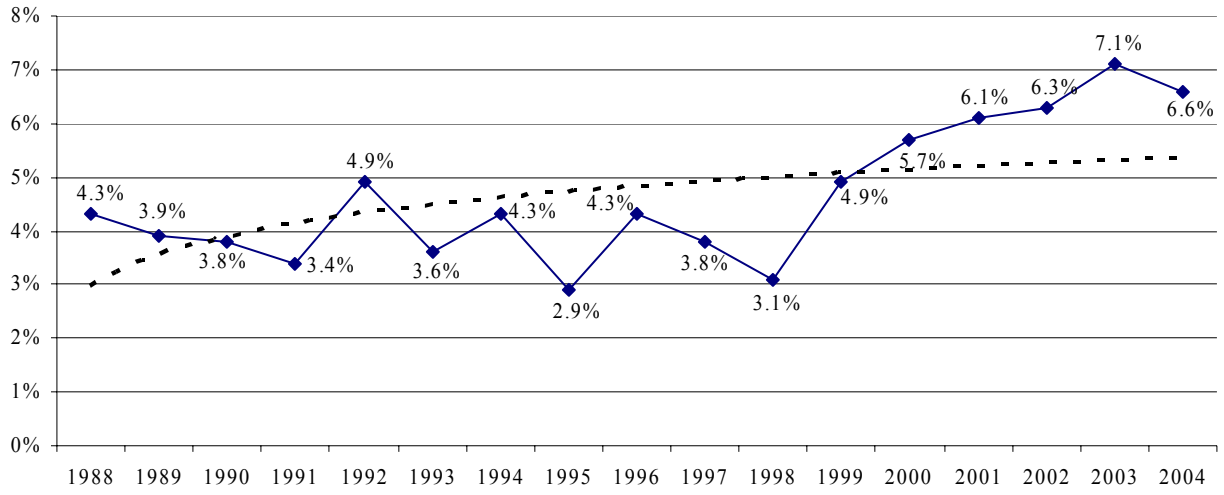
Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 1987-1993, 1995-1997, 1999, and 2001-2003

High blood cholesterol occurs when there is too much cholesterol (fat-like substance) in the blood. When the cholesterol level is high, the risk of heart disease or heart attack increases. A total cholesterol value of less than 200 mg/dL is desirable. For persons with risk factors, the recommended level is lower.[17] Other factors include the HDL (good) and LDL (bad) cholesterol levels. An HDL level greater than 60 mg/dL is recommended and can help to lower the risk for heart disease. An LDL level of less than 100 mg/dL is optimal.

The percent of South Dakotans who have high blood cholesterol has been increasing overall since the question was first asked in 1987. Although South Dakota (31.2%) is significantly better than the nation (33.6%) for respondents who were told they have high blood cholesterol, a substantial number of those individuals with hypertension and/or diabetes also had high blood cholesterol.[11] Thus, there are a number of South Dakotans living with multiple chronic diseases.

Diabetes mellitus is a group of diseases characterized by high levels of blood glucose resulting from defects in insulin production, insulin action, or both.[18] There are unmodifiable risk factors for the development of diabetes such as genetics and old age. Modifiable risk factors include obesity and lack of physical activity. There are two main types of diabetes, type 1 and type 2. Type 1 results in the body's inability to produce insulin. The CDC indicates that only 5-10% of all people diagnosed with diabetes have type 1. Type 2 diabetes results from insulin resistance combined with relative insulin deficiency.[19] In 2004, 6.6% of South Dakota adults had been told that they have diabetes unrelated to pregnancy

Figure 6
Percent of Respondents Who Were Told They Have Diabetes, 1988-2004



Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 1988-2004

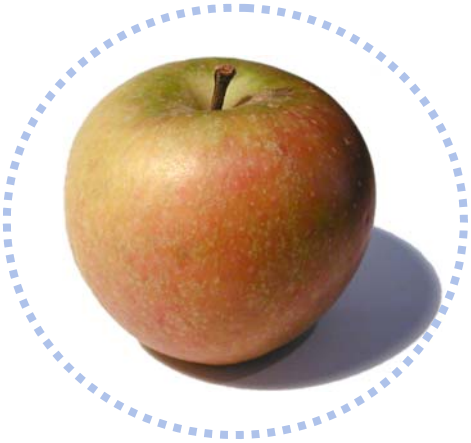
(gestational diabetes) (Figure 6). Some significant differences in demographics have also been identified in the 2003 BRFSS for those who have diabetes. The incidence of type 2 diabetes increases as age increases. American Indians (15.6%) demonstrate a much higher prevalence of diabetes than whites (6.5%). The prevalence of diabetes generally decreases as household income and education levels increase.[11]

Economic Impact

Obesity and overweight have considerable impact on the health care system both from direct and indirect costs, according to the CDC. Direct health care costs are those associated with physician visits, tests, hospital care, and preventative, diagnostic, and treatment services. Indirect costs are those such as income lost due to absenteeism, restricted activity, decreased productivity, and the value of future income lost to premature death. In a study completed in 2004, the estimated adult obesity expenditure for South Dakota was $195 million in 2000. Almost half of these costs were paid by Medicare and Medicaid.[20]

Guiding Principles

Introduction



In creating the "South Dakota State Plan for Nutrition and Physical Activity to Prevent Obesity and Other Chronic Diseases," the stakeholders came to a consensus on "guiding principles," i.e., concepts that would provide the framework to the plan and be critical to its success. The stakeholders also agreed to be cognizant of these guiding principles when designing the plan, which can be seen in the structure and content of the plan's goals, objectives, and strategies. These guiding principles will be discussed in the remainder of this chapter.

Science-Based Strategies

According to the Centers for Disease Control and Prevention's Resource Guide for Nutrition and Physical Activity Interventions to Prevent Obesity and Other Chronic Diseases, the following five strategies should be included in programs intended to prevent and control obesity and other chronic diseases, and the South Dakota State Planning Team agrees.[21] A short explanation of each strategy follows:

Increased Physical Activity

Physical activity is any body movement that results in expenditure of energy. This means walking, biking, swimming, housekeeping, raking, running, lifting weights, and playing are all forms of physical activity. Adults should engage in moderate intensity physical activities for at least 30 minutes on five or more days of the week or vigorous intensity physical activity three or more days per week for 20 or more minutes per occasion. Children and adolescents are recommended to participate in at least 60 minutes of moderate intensity physical activity most days of the week, preferably daily.[22]

> ***"The victory is not always to the swift, but to those who keep moving."***
>
> -Unknown

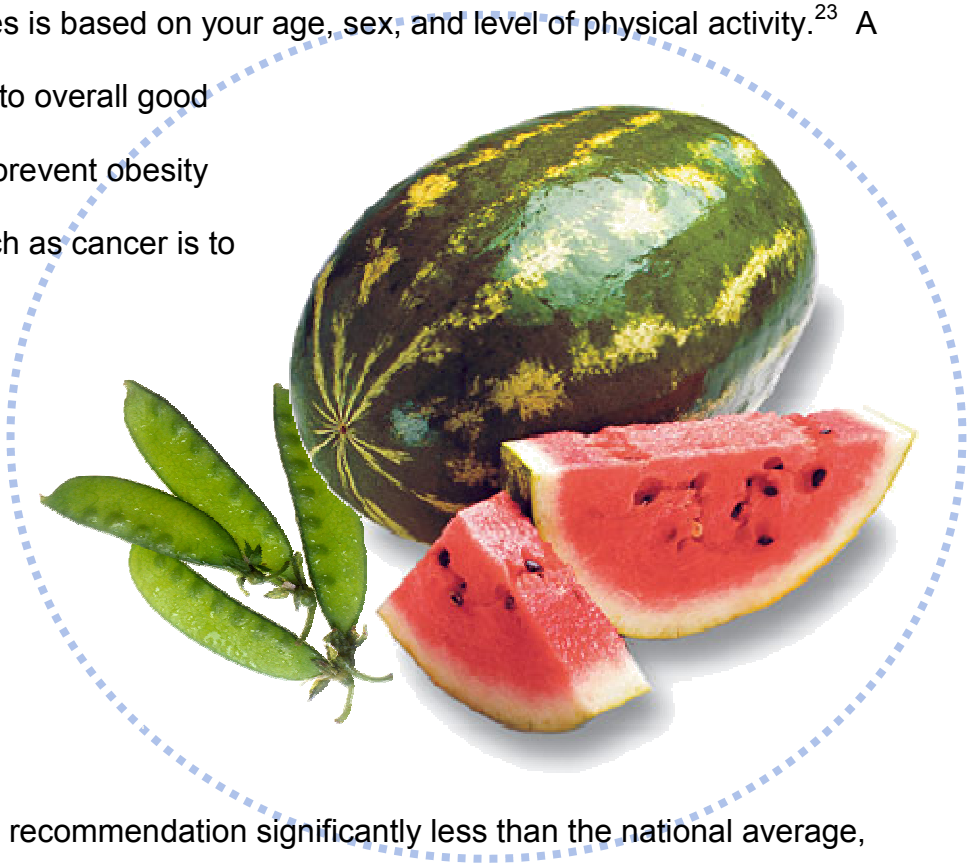
Despite the fact that physical activity can reduce the risk of overweight and obesity and related illnesses such as cardiovascular disease, colon cancer, diabetes, and high blood pressure, South Dakotans report engaging in physical activity less than the national average, and less than the amount recommended.[11]

Reduced Television Time

Television viewing is a factor that contributes to overweight and obesity, and it may exacerbate the problem from several different directions. First, television viewing is a sedentary activity that may replace hours that might have been spent on physical activity, and may also reduce metabolic rate. Caloric intake may also increase while watching television. Finally, television advertisements might influence the purchase and consumption of high calorie foods and snacks. The American Academy of Pediatrics recommends children view a maximum of one to two hours of television per day. A related and more recent phenomenon that might share many of these same characteristics is that of recreational computer and video game playing.

Increased Consumption of Fruits and Vegetables

According to the United States Department of Agriculture (USDA), the daily recommended servings of fruits and vegetables is based on your age, sex, and level of physical activity.[23] A longstanding recommendation to overall good health as well as a strategy to prevent obesity and other chronic diseases such as cancer is to increase fruit and vegetable consumption. Despite the clear association between the increased consumption of fruits and vegetables and positive effects on health, the 2003 BRFSS shows that South Dakotans follow this recommendation significantly less than the national average, and again, less than the guidelines recommend.[11]



Increased Breastfeeding

Breastmilk is the "most complete form of nutrition for infants, with a range of benefits for infants' health, growth, immunity, and development."[24] The amount of protein, carbohydrates, and fat found in breastmilk provide the perfect nutrition for infants to grow.[25] Breastfeeding has also been shown to protect against childhood overweight and related chronic diseases. The Healthy People 2010 Objectives for mothers who breastfeed is 75% in the early postpartum period, 50% at six months, and 25% at one year. South Dakota has yet to meet any of these goals. A number of strategies in this plan specifically focus on the promotion of breastfeeding to encourage the increase of initiation and duration of breastfeeding.

Improved Calorie Intake and Expenditure

"Weight gain occurs when energy intake (caloric intake) exceeds energy expenditure," according to the CDC's Resource Guide for Nutrition and Physical Activity Interventions to Prevent Obesity and Other Chronic Diseases, which summarizes the scientific reason why many people become overweight and obese.[21]

Therefore, the inverse is also true: weight loss occurs when energy expenditure exceeds energy intake (caloric intake). While specific interventions in this area aren't recommended as of yet by the CDC, several topics within this strategy could be considered in program development:

- dietary fat;
- dietary fiber;
- macronutrients and satiety;
- energy density;
- sweetened beverages;
- fast food and restaurant use;
- dietary patterns;
- portion size; and
- calcium and dairy intake.

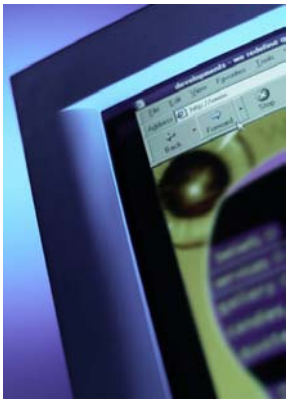
Disparities

South Dakota is a unique state with unique needs. The stakeholders have taken these factors into consideration when creating this plan.

First, South Dakota is one of the most rural of all states, with an average of approximately 10 persons per square mile, versus the national average of nearly 80 persons per square mile. South Dakota is also a state with lower than average family and household income, according to the U.S. Census Bureau. In fact, several of South Dakota's counties have the lowest median family incomes in the nation, and also some of the highest rates of poverty. Finally, South Dakota has a significant American Indian population, comprising 9.0 percent of the total population, according to the U.S. Census Bureau.[10]

These three factors (the rural nature of the state, the low income of its population, and the minority population) are important in that they have implications for the structure and implementation of the strategies within the plan. These factors were taken into consideration by the stakeholders when creating the plan to ensure the greatest possible level of success.

Technology



The preceding “Disparities” section details the extremely rural nature of the state of South Dakota. The very remote areas and the vast distances between areas of population within the state call for different methods of information dissemination and approaches to implementation of the plan in regard to technology. One example of an effective approach to successfully utilize technology to meet the state’s unique needs is the http://www.healthysd.gov website, which provides pertinent health information and promotes other resources via the Internet.

The SDDOH has interactive video technology and telemedicine that can be used to provide health care training and health care visits. Interactive video technology is located in many sites across the state and can connect to the telemedicine equipment to provide interactive training. This equipment has the ability to connect to similar equipment owned by the large health care systems in the state.

Very aggressive technology initiatives have had a great impact on education and other agencies in South Dakota. The Connecting the Schools initiative built a statewide network, the Digital Dakota Network (DDN), providing public schools with free internet and video conferencing service. High-end servers were placed in every school building and video-conferencing equipment was placed in all middle schools and high schools. Now, public school buildings, state universities and dorms, and public libraries are wired for Internet connectivity. There are 101,000 Internet drops or connection points in the public schools of South Dakota. There are well over 200 videoconferencing units spread across the state in the 160+ public school districts. The connectivity and support necessary to use the

equipment are provided to the schools by the State at no cost to the local district. During the 2004-2005 school year, approximately 80 high school courses occurred over the DDN. Numerous enrichment opportunities for K-8 students and professional development opportunities are also made available to South Dakota students and teachers via DDN every day. The use of these statewide resources will make dissemination of information more efficient in the rural state of South Dakota.

People with Disabilities

The stakeholders are mindful of the fact that South Dakotans with disabilities have special needs. Because of this, the information and strategies within the plan are accessible and/or easily adaptable to meet the needs of people with disabilities. For example, the information within the plan can be easily adopted for use by people with hearing or vision impairments. Likewise, the strategies within the plan are also appropriate for people with developmental or other disabilities.

Cultural Appropriateness

As stated previously in the "Disparities" section of this chapter, South Dakota has a significant American Indian population. The plan has been developed to be truly statewide in its information and implementation, applying to all residents of the state, including American Indians. Indian Health Service (IHS) and tribal entities can utilize these strategies in American Indian communities. Community members who are knowledgeable of American Indian culture, such as tribal elders, should be encouraged to participate in community efforts.

South Dakota is growing in population due in part to an influx of immigrant and refugee families, many in Sioux Falls. The immigrant and refugee families are from various countries in Eastern Europe, South America, Central America, Africa, Asia, the Middle East, and the Caribbean. The information within the plan is adaptable and can be translated into Lakota or other languages as needed.

Applying Behavior Models

Two models of behavior change, the Transtheoretical and Socio-Ecological Models were previously introduced and explained in this plan as they relate to overweight and obesity. Simply put, the Transtheoretical Model describes the individual's role in behavior change, and recognizes that an individual can enter or exit the process at any of the stages described based on their readiness to change and their personal choices and actions. The Socio-Ecological Model acknowledges the individual's role, but also recognizes that the environment plays an important role in behavior change as well. In fact, behavior change is more likely to continue when both the individual and the environment undergo change concurrently.[21]

In creating the recommendations within the state plan, the stakeholders used these two models of behavior change to design approaches that will be successful for South Dakotans. These approaches allow for the fact that people are in different stages of readiness related to overweight and obesity, and that in regard to environmental changes, communities are as well. The strategies put forth by the group attempt to blend methods that effect changes to both the individual and the environment for a combination that ensures the greatest likelihood of success.

Parents and Caregivers

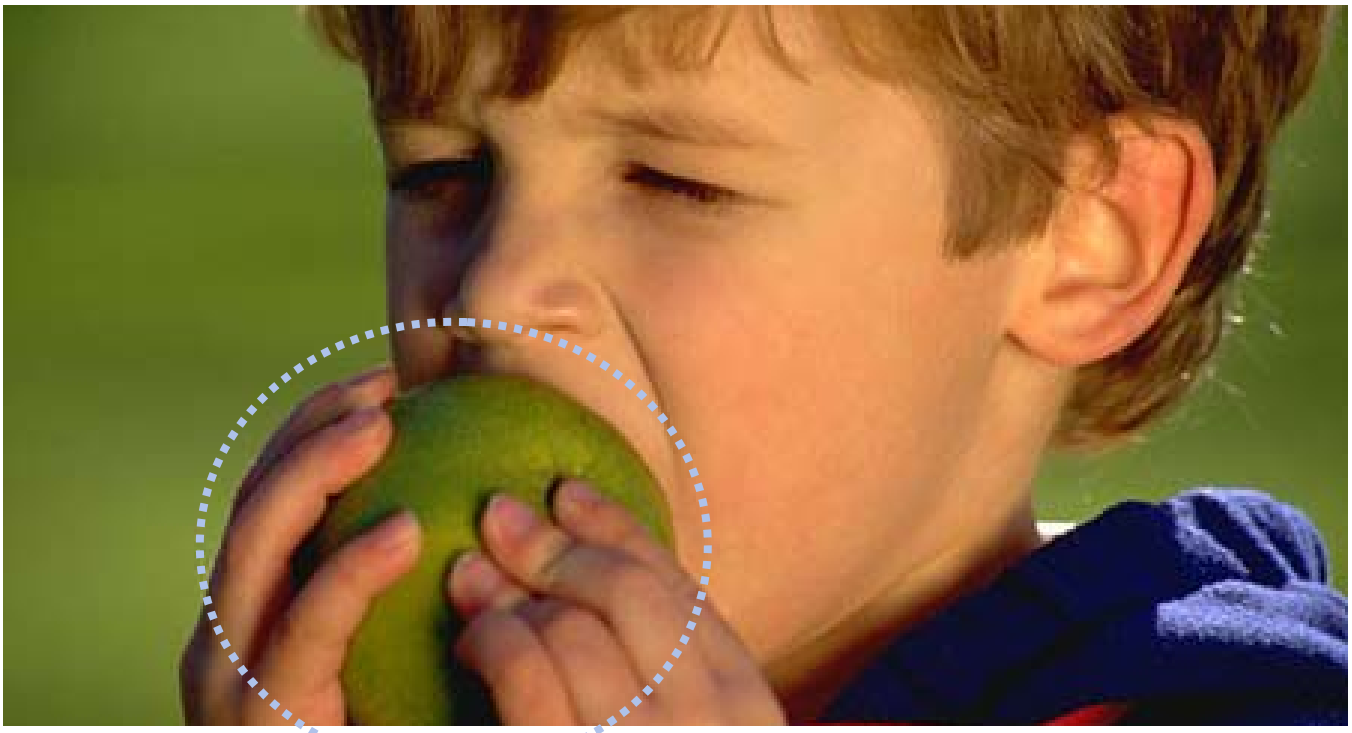
Introduction

Studies show that childhood and adolescent obesity is increasing at a faster rate than obesity in the adult population of this country. It is affecting boys and girls, all ages, races, and ethnic groups throughout the United States. The immediate risks are physical, emotional, and social in nature. Overweight and obese children are at risk of developing serious health conditions including type 2 diabetes, hypertension, and heart disease, to name a few.[26] The emotional and social consequences for overweight children in a society that stigmatizes this condition are severe and traumatizing. Once at risk of overweight or overweight, a large percentage will remain overweight into adulthood and will suffer the health-related problems associated with overweight and obese adults. Due to these factors, it is vital that children are targeted for preventive interventions at the earliest possible juncture.

Parents and caregivers play an integral and vital role in impacting the issue of overweight and obesity for South Dakota children. In the beginning, encouraging mothers to initiate and continue breastfeeding decreases obesity in childhood and in later life. The breastfeeding infant is better able to control intake in response to appetite. Young children rely on their parents and caregivers to decide which foods to eat and how much physical activity they need. School age children and adolescents require information and role-modeling from parents and caregivers as they start to make decisions on their own.

The 2004 PedNSS data, which surveys children ages two to five years from limited income families at or below 185 percent of the federal poverty level, indicates that 32.0% of South Dakota children are at risk of overweight or overweight.[8] And according to the 2004-2005 South Dakota School Height and Weight Report, 33.0% of children and adolescents ages 5-19 years are at risk of overweight or overweight.[12] With these quickly rising rates for children, it is becoming increasingly important to provide parents and caregivers with the appropriate information and tools to make good choices for their children, to educate their children, and to provide a healthy environment in which to make these choices.

The different environments and learning experiences available to children play a crucial role in molding their physical activity and eating patterns for years to come. While parents provide the first environment for their children, a majority of South Dakota children spend a portion of their day with other caregivers, schools, and programs that serve children. South Dakota leads the nation with 77.5% of mothers of children under age six in the workforce. A report from the Annie E. Casey Foundation indicates that 47% of South Dakota children younger than age six are in paid child care (twice the national average and more per capita than any other state). It is estimated that approximately 28,835 South Dakota children are in child



care, all or part of each day.[27] These staggering statistics point to the need for targeting efforts beyond parents to other adults and caregivers who provide guidance to children and serve as role models.

Our country has seen a decrease in the physical activity opportunities afforded to children over the past few decades due in large part to crime, community infrastructure, and advances in technology. Most children today have ready access to television, video games, and computers. National surveys have shown a definite correlation between the number of hours children watch television and their risk of being overweight. Use of computers for educational purposes is a necessity for success in school. However, limitation of the amount of recreational screen time should be considered due to the potential negative consequences.

In addition, many parents are concerned about the safety of their children and are uncomfortable allowing them to walk or ride their bicycles to school. Thus, many more children are being driven to school today than in decades past. Sidewalks and parks, which

are conducive to biking or walking, are often missing in new housing developments. While each of these changes on their own may not be an issue, when they are combined, they compound the challenges for parents and caregivers.

In typical South Dakota families today, both parents are often working. With increased demands at the workplace, healthy nutrition options at home are not always a priority. Many parents are trying to juggle two careers, a variety of activities for their children, and their own community activities. Due to these issues, many parents lack the time available for the conventional preparation of meals and welcome the ease of fast-food restaurants and convenience foods. Sitting down to a well-balanced meal in the evening with the entire family is a challenge at best.

There are a number of South Dakota projects already in existence for parents and caregivers that can be utilized and built upon by this plan. For instance, the Bright Start Initiative provides an opportunity to distribute information to parents through a "Welcome Box" that is sent to every newborn in South Dakota and through a monthly parent update. The "Walk in the Park" program provides an opportunity for families to participate in a series of guided hikes in South Dakota's state parks, recreation areas, and nature preserves. This is a collaborative program of the SDDOH and SD Game, Fish and Parks. The SD Department of Social Services, Office of Child Care Services

frequently provides mailings to parents and caregivers who provide direct services to children, which offers an opportunity for statewide distribution of educational materials. In addition, Child and Adult Nutrition Services in the Department of Education provides educational opportunities for child care centers, schools, and family daycare centers enrolled in the food program.

The stakeholders involved in creating this plan have focused on ways to encourage parents and caregivers to provide environments supportive of healthy physical activity and nutrition patterns. It is evident that behaviors adopted in childhood have lasting effects, and the thrust of these recommended objectives and strategies take advantage of and build on this knowledge.

Goal, Objectives, and Strategies

Goal: South Dakota parents and caregivers will provide a healthy environment for children that promotes physical activity and healthy eating.

Objective 1.1: By 2010, increase to 40% the proportion of children ages 2 – 18 who consume five or more servings of fruits and vegetables per day.

Strategies:

- Promote nutrition materials and resources available from http://www.healthysd.gov, http://www.mypyramid.gov, and 5-A-Day program.
- Include nutrition tips and resources in statewide newsletters.
- Educate parents and caregivers with existing public education nutrition programs.
- Recommend that all higher education curricula for early childhood education, elementary education, and secondary education programs include at least a minimum of three (3) credits in nutrition.

- Provide all childcare agencies with information to improve fruit and vegetable consumption.

- Develop assessment tool and baseline data.

Objective 1.2: By 2010, reduce to 20% the proportion of pre-school children, school age children, and adolescents who are at risk of overweight or overweight.

Strategies:

- Promote and support fun physical activities for families and caregivers.

- Develop a campaign to encourage parents and caregivers to offer healthy, child-friendly meals and snacks.

- Develop and distribute child-friendly recipes for parents and caregivers.

- Develop and distribute materials to parents and caregivers regarding label reading.

- Provide tools to parents and caregivers to advocate for changes in the school and child care environments.

Objective 1.3: By 2008, increase by 15% the proportion of early childhood programs that adopt a physical activity program policy for children.

Strategies:

- Determine baseline number of early childhood programs that currently have physical activity policies for children.

- Develop a task force composed of early childhood development and physical activity experts to determine methods to increase physical activity in programs that serve children.

- Develop physical activity guidelines for early childhood programs.

- Promote and distribute physical activity guidelines to early childhood programs.

- Provide opportunities for staff development.

Objective 1.4: By 2010, increase to 75% the proportion of infants who are ever breastfed.

Strategies:

- Establish peer support systems in communities for parents.

- Develop and distribute breastfeeding materials to parents.

- Develop statewide roster of prenatal classes and provide breastfeeding materials and resources for prenatal instructors.

- Promote breastfeeding as the optimal infant feeding method in family and consumer science classes.

Objective 1.5: By 2007, distribute public education materials and resources on the impact of overweight and obesity to at least 50,000 parents and caregivers.

Strategies:

- Develop a campaign for parents and caregivers on the overweight and obesity epidemic and the benefits of good health, which includes a healthy attitude toward physical activity, portion sizes, and selection of foods.

- Promote low-cost and no-cost resources to parents and caregivers, i.e., http://www.healthysd.gov and "Walk in the Park" program.

- Provide strategies to parents and caregivers for incorporating physical activity and healthy eating into their busy schedules.

- Educate parents and caregivers on the negative impact of food messages from the media and provide guidance to improve media literacy in their children.

- Develop a campaign on the importance of family meal times for healthy eating and weight maintenance.

- Provide ongoing professional development on physical activity and nutrition for adults who work with children.

- Develop a campaign to reduce non-school screen time, i.e., television, computer, and video games.

Objective 1.6: By 2008, distribute information regarding the importance of healthy physical activity patterns for children to at least 50,000 parents and caregivers.

Strategies:

- Utilize http://www.healthysd.gov to promote physical activity materials.

- Develop a campaign for parents and caregivers on the importance of being a role model for children by incorporating physical activity in the day.

- Research available curricula that provide parents and caregivers with information to encourage physical activity for children.

- Distribute curricula that promotes age-appropriate physical activity during children's indoor and as outdoor play times.

- Train staff of childcare programs and child and youth organizations on the use of the curricula.

- Partner with local community organizations that offer physical activities and/or physical activity challenges to families and caregivers.

- Partner with organizations that serve children on a regular basis to encourage physical activity.

- Promote accessible and affordable physical activities for families and caregivers.

- Develop and disseminate short educational physical activities, such as Minds in Motion for early childhood.

- Explore the possibility of additional questions on current survey instruments in regard to the amount of physical activity in which children participate.

- Promote the use of physical activity equipment in the Early Childhood Enrichment Lending Libraries.

- Provide parents and caregivers with strategies to decrease non-educational screen time, i.e., no TV on some days of the week and no TV in bedrooms and dining rooms.

Objective 1.7: By 2010, increase to 50% the proportion of infants breastfed at 6 months and to 25% the proportion of infants breastfed at one year.

Strategies:

- Establish guidelines for supportive environments and clean, comfortable space for breastfeeding in community facilities, workplaces, schools, and daycares.

- Develop and provide materials to breastfeeding mothers in regard to planning for their return to work or school, i.e., *Caring for the Breastfed Baby: A Guide for Childcare Providers*.

- Research options for purchasing, renting, or loaning efficient double electric breast pumps and provide this information to expecting parents, health care providers, prenatal providers, WIC staff, and Healthy Start staff.

- Pursue systems of reimbursement for lactation consultant services and efficient double electric breast pumps.

Schools and Youth Organizations

Introduction

In South Dakota, the most recent information indicates that 138,504 students are enrolled in K-12 public and non-public schools.[28] Research demonstrates that children are spending more of their time away from home in school, after school programs, or daycare.[29] Further, children and adolescents are gaining weight at increased rates. According to the 2004-2005 South Dakota School Height and Weight Report, over the past six years the state has experienced an increase in the overweight category for school age children and adolescents, K-12, from 15.1% in the 1998-1999 school year to 16.4% in the 2004-2005 school year. By race, American Indian children increased in the overweight category from 21.1% in 1998-99 to 26.1% in 2004-2005.[12]

Schools are one of the best resources to enlist in the fight against childhood and adolescent obesity. Engaging students in physical activity and nutrition education during the course of the school day ensures that children will receive the activity level and education they need for making better dietary choices. Schools play a major role in reducing poor nutritional choices

both in their cafeteria menus as well as the vending machines on school property. According to an article in Scientific American, research shows that children who suffer from poor nutrition during the brain's most formative years score much lower on tests of vocabulary, reading comprehension, arithmetic, and general knowledge.[30] Physical activity should again be a priority for schools through physical education classes and the expansion of intramural and interscholastic sports programs.

Schools and teaching staff can engage in a number of activities to assist children to make healthy lifestyle changes and decisions. The South Dakota School Height and Weight Report recommends schools measure height and weight accurately and use CDC growth charts to screen children and adolescents, provide guidance to parents and children regarding healthy eating and physical activity habits, and refer children and adolescents with positive screens for intervention as appropriate. Another constructive activity is a discussion of body image and societal pressures, especially for young girls.[12] As young children move towards adolescence and away from parental influence, programs need to offer skill building on personal choice. Providing teens with the knowledge and capability to make healthy choices may be accomplished more successfully by schools in collaboration with parents. Self-surveys offer teens in a school setting an opportunity to examine their daily eating habits and calorie intake. School faculty who provide non-threatening support and guidance to teens can make an impact on negative behaviors before they become negative lifestyle choices.

These and a number of other suggestions for teachers, coaches, and other school officials can be found in the glossary and resources section of this plan. The section lists documents and websites that have valuable information on curriculum geared towards quality physical education and healthy eating. This includes the Model School Wellness Policy developed by the South Dakota Department of Education which meets the new federal requirement enacted by Congress under the Child Nutrition and WIC Reauthorization Act of 2004, PF 105-268. This new law established requirements for all local agencies (public and nonpublic, as well as residential child care institutions) with a federally-funded National School Lunch program. The local agencies are required to develop and implement wellness policies that address nutrition and physical activity by the start of the 2006-2007 school year. In response to this requirement, the South Dakota Department of Education convened a work group consisting of health, physical activity, nutrition, and education professionals representing a variety of organizations, as well as students and parents, to develop a wellness policy for local agencies. The science- and research-based policy models use existing practices from exemplary states and local school districts around the country. The Model School Wellness Policy was approved by the South Dakota State Board of Education on September 20, 2005. Districts are to adapt this model policy as appropriate to meet the needs of their schools.

Another measure underway in South Dakota, approved by the State Board of Education, is the requirement for all freshman (starting in the fall of 2006) to earn a 1/2 credit either of physical education or health education for high school graduation. Some schools already meet or exceed the requirement.

South Dakota has also developed a strong collaborative effort between the Departments of Health and Education called the South Dakota Coordinated School Health Program. It provides technical assistance to school districts to plan, carry out, and evaluate coordinated school health programs and to address significant health problems that affect students. The Coordinated School Health Program also promotes the *South Dakota Schools Walk* program in an effort to target childhood obesity by encouraging young people to make walking part of their daily routine. South Dakota has consistently been awarded Team Nutrition grants to improve school meals and nutrition education.

Not only schools, but youth and youth-serving organizations can provide an environment in which children and adolescents can be exposed to wellness education and activities. Youth organizations can be either private or non-profit entities that provide services and out-of-school activities in a community to ensure their youth have opportunities to be safe, develop competence, and forge positive relationships with adults and peers. Partnering with parents and schools, youth organizations can complement efforts to offer young people an overall program of wellness targeted at both physical activity and nutrition. Organizations such as the Boys and Girls Clubs, YMCAs, YWCAs, 4-H, Boy Scouts, Girl Scouts, church youth groups, community summer recreation programs, and after-school programs all provide excellent opportunities for influencing young people regarding their lifestyle choices.

The objectives in this chapter provide practical strategies for schools and youth organizations to offer our youth the skills that will serve them well into adulthood.

Goal, Objectives, and Strategies

Goal: Provide environments for youth to learn and practice skills today for a lifetime of fitness and healthy eating.

Objective 2.1: By 2010, all South Dakota K-8 schools will provide 150 minutes per week of physical education and 25% of South Dakota high schools will provide 225 minutes per week of physical education.

Strategies:

- Educate public and school administration/boards/staff about the definition of quality physical education.
- Provide professional development opportunities for those who teach physical education.
- Work with higher education institutions to ensure that physical education teacher candidates receive comprehensive physical education courses.
- Work with higher education institutions to ensure that elementary education teacher candidates receive a physical activity course.
- Identify stakeholders to organize advocacy initiatives for increasing physical education to meet national daily physical education recommendations.
- Work with the South Dakota Department of Education to gain support for mandatory physical education requirements.
- Approach the State Board of Education with a request to consider mandatory physical education requirements.

<u>Objective 2.2:</u> By 2010, establish comprehensive, sequential K-12 health education, focusing on nutrition education and physical activity in all South Dakota schools.

Strategies:

- Conduct literature review to determine the recommended amount of nutrition education needed to influence youth eating behaviors.
- Educate the public and school administration/boards/staff about the definition of quality health education.
- Provide professional development opportunities for those who teach health education.
- Work with higher education institutions to ensure that health education teacher candidates receive comprehensive health education courses.
- Work with higher education institutions to ensure that elementary education teacher candidates receive a health education methods course.
- Identify stakeholders to organize advocacy initiatives for increasing health education to meet national health education recommendations.
- Work with the South Dakota Department of Education to gain support for mandatory health education requirements.
- Approach the State Board of Education with a request to consider mandatory health education requirements.
- Provide breastfeeding, caloric balance, and increased fruit and vegetable consumption resources and educational information within appropriate curricula.

Objective 2.3: By 2010, all South Dakota communities and youth organizations that serve food will adopt nutrition standards as outlined in the South Dakota Department of Education Model School Wellness Policy.

Strategies:

Educate the public and school administration/boards/staff about the Model School Wellness Policy and the nutrition standards.

- Provide training and technical assistance to schools to implement the Model School Wellness Policy.
- Identify stakeholders to organize advocacy initiatives in regard to the nutrition standards as outlined in the Department of Education Model School Wellness Policy.
- Provide training to school food service sites and childcare sites on nutrition topics.
- Provide training opportunities to teachers and school wellness teams.

Objective 2.4: By 2007, develop a pilot project involving ten (10) youth organizations to increase physical activity opportunities for youth.

Strategies:

- Develop a toolkit for youth organizations for the purpose of increasing physical activity.
- Provide training, technical assistance, and mini-grant funding to youth organizations on methods to increase daily physical activity.
- Provide technical assistance to youth organizations to increase submission of physical activities proposals for program funding.
- Utilize youth organizations, including student councils and family and consumer science groups, to provide peer education.
- Promote park and recreation programs for youth organizations.

- Develop an evaluation tool to measure the effectiveness of the pilot projects.

- Publish recommendations for replication by other youth organizations.

<u>Objective 2.5:</u> By 2007, 85% of the school districts and youth organizations in South Dakota will designate a wellness coordinator who will serve as a contact person for all nutrition and physical activity communications.

Strategies:

- Define the role of the wellness coordinator in each district and youth organization.

- Provide training for all wellness coordinators via the Digital Dakota Network (DDN).

- Explore options to provide funding for a wellness coordinator in each of the Educational Service Agencies who will oversee wellness coordinators from the districts in their region.

- Utilize wellness coordinators to distribute materials and training information.

<u>Objective 2.6:</u> By 2006, provide all school districts and youth organizations with information on improving youth fruit and vegetable consumption.

Strategies:

- Develop and distribute an informational packet to all schools which will promote fruit and vegetable consumption throughout the school day.

- Develop partnerships between schools, youth organizations, and their local farmer's market.

- Develop nutrition guidelines for parents and caregivers who are providing snacks at schools and youth organizations.

- Share best practices for improving fruit and vegetable consumption.

- Promote healthy food choices in vending machines at schools and youth organizations.

Objective 2.7: By 2007, expand and promote the HealthySD.gov website as a network for information and resources for all schools and youth organizations.

Strategies:

Explore web-based and membership-based communication between stakeholders to create awareness about emerging and existing programs.

- Expand the school and youth sections of the http://www.HealthySD.gov website.

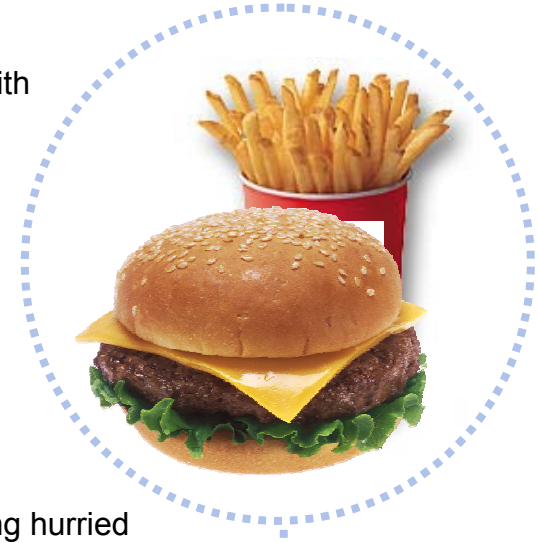
- Promote media campaign for http://www.HealthySD.gov website as a resource for schools and youth organizations.

- Identify schools, youth organizations, and state agencies that will promote http://www.HealthySD.gov as a resource.

- Identify schools, youth organizations, and state agencies that will promote stakeholder membership as a benefit for their organization's members.

Workplace

Introduction



The workplace presents a double-edged sword when dealing with the issues of overweight and obesity. Today's workplace is incredibly fast-paced and workers are spending more and more time at the workplace, meaning long hours and increased job pressures. This reduces the available time for physical activity and exercise. These factors make the convenience of fast food and other less healthy food choices all the more inviting, allowing hurried workers to eat food that might be convenient, but not nearly as nutritious.

Added to this is the fact that many jobs are of a sedentary nature, thereby exacerbating the problem by offering less opportunity for physical activity throughout the workday hours. The trend for more sedentary jobs is likely to continue as employment that requires physical activity is becoming less and less prevalent due to ever-improving technology.

These trends are illustrated in the following remarks from July 8, 2004 testimony to the Small Business Committee of the U.S. House of Representatives.

"According to the Department of Health and Human Services…obesity costs U.S. companies an estimated $12.7 billion annually. On average, health care for obese workers costs 36 percent more than for normal weight workers, and medication costs 77 percent more. Direct costs of obesity include medical insurance, hospitalization, physician visits, outpatient testing/treatment, laboratory, radiology tests, and prescription drugs. Health insurance is responsible for $7.7 billion, followed by life insurance, $1.8 billion, and disability insurance, $800 million. Indirect costs include decreased productivity and increased absenteeism. And according to a study by the Centers for Disease Control, obese employees are twice as likely to be absent 14 or more times per year. Paid sick leave associated with obesity costs employers an estimated $2.4 billion per year."[31]

However, the workplace also provides an opportunity for positive influence on today's workers. Workers spend many hours each week at the workplace, and for the most part, workers are a "captive audience." This allows the workplace to be very influential in encouraging wise choices regarding physical activity and healthy eating.

Prevention of overweight and obesity is a "win-win" for employers and employees. The personal benefits for the individual are well-documented and discussed earlier in this document. The Healthy Workforce 2010 document from the Partnership for Prevention illustrates that the employer also has much to gain by encouraging and providing opportunities for healthier lifestyles: healthier workers are more productive, absent less often, and have higher morale. This Partnership for Prevention document also reports that one analysis of absenteeism studies determined an average savings of $5.00 for every program dollar spent.[32] In another study, overweight employees had $186 more in health claims yearly than normal weight employees, and obese employees cost $488 more per year than those in the healthy weight range. In the same study, employees who were obese and sedentary had health care claims over $800 more per year than employees who were not overweight and were active.[33] Additionally, breastfed infants experience less illness resulting in decreased parental absenteeism.[34] Thus, the encouragement and support of physical activity, breastfeeding, and healthy eating is an excellent "return on investment" for a

business. Healthier workers are less costly to the employer's health insurance, a major expenditure for many businesses.

The South Dakota Department of Health has created the Strides to a Healthier Worksite document, which is a hands-on, practical resource for workplaces that are interested in learning more about implementing workplace wellness programs. It is available at the following website: http://www.healthysd.gov/Workplace.html. In January 2004, the State of South Dakota Bureau of Personnel introduced a wellness program to help health plan members become more physically fit and healthier. The program is available to active employees, retirees under age 65, COBRA participants, and spouses that are covered under the health plan. Members register on a voluntary basis, and are given access to an online personal diary which allows them to track their successes through the secure website. It is the Bureau of Personnel's intent to provide this wellness program and other disease management programs to help offset health care costs to their self-insured health plan. At the same time, they believe they can also reduce absenteeism, create and maintain a healthy workforce, and reduce the amount of leave used due to illness.

The stakeholders recognize the opportunity to help prevent obesity and overweight that the workplace provides, and this plan outlines a framework to address this in the goal, objectives, and strategies in the following section.

Goal, Objectives, and Strategies

Goal: To promote healthy lifestyles and reduce chronic disease in South Dakota workplaces through healthy eating and physical activity.

<u>Objective 3.1:</u> By 2010, establish 50 additional workplace wellness programs that support an environment for healthy eating and physical activity.

General Strategies:

- Gather baseline data to determine the number of employers that offer workplace wellness programs.
- Increase workplace management and employee awareness of the health and economic impact of being overweight and obese through activities such as presentations, health fairs, and workplace communications.
- Identify individual risk for being overweight and obese through avenues such as screenings, health risk assessments, and medical appointments.
- Develop a statewide workplace wellness committee to network and provide employers with "workplace wellness toolkits" to successfully and effectively implement health prevention and management programs and services.
- Develop statewide incentive program for workplaces that offer comprehensive workplace wellness programs and services.
- Collaborate on delivery and implementation of health risk management programs with employers and related health insurance providers.
- Develop a list of best practices to identify and facilitate appropriate interventions and incentives.
- Provide small business employers information regarding how to coordinate and combine efforts with other small businesses to make offering a workplace wellness program more feasible.
- Work with partners and policymakers to develop ways to affect environmental and policy changes in workplaces to increase opportunities for workplace wellness.
- Conduct a pilot project with South Dakota employers to promote change in health behaviors through the provision of incentives.

- Evaluate the impact of workplace wellness programs including the return on investment, such as decreased absenteeism, increased productivity, and decreased sick days.

Physical Activity Strategies:

- Provide physical fitness education and wellness programs to individuals and/or groups of employees.

- Provide incentives to employees for participation in physical fitness education and wellness programs.

- Promote physical activity through approaches such as on-site fitness facilities, instructor-led classes, physical activity paths, and/or discounted memberships to community fitness/wellness/recreation facilities.

- Collaborate with communities to support on-site and community fitness events, activities, leagues, and challenges.

- Advocate and create a culture of physical activity at the workplace, such as physical activity breaks, lunch, pre-and post-shift, flexible work hours, and stairwell makeovers.

- Encourage employers to promote time without TV as a strategy to increase physical activity among their employees and their families, i.e., Turn Off the TV Night.

Healthy Eating Strategies:

- Promote healthy eating education and wellness programs to individuals and/or groups of employees.

- Provide incentives to employees for participation in healthy eating education and wellness programs.

- Provide healthy food options in vending machines and cafeterias, at company events, and office snacks.

- Provide areas for employees to safely store and prepare workplace meals.

- Collaborate with local produce growers and community organizations/businesses to offer affordable and convenient healthy food choices.

Breastfeeding Strategies:

- Educate employers on the needs of employees who are breastfeeding mothers and the economic impact of supporting breastfeeding for their employees.

- Provide breastfeeding information to businesses to ensure supportive environments for breastfeeding mothers who return to work.

- Promote flexible work arrangements to assist breastfeeding mothers' return to work.

- Promote policies which support the provision of adequate, clean, and private space, time, and storage for breastfeeding and/or pumping.

- Develop resources for breastfeeding mothers with recommendations for successfully approaching employers to request accommodations for breastfeeding.

- Collaborate with employers to develop incentives to promote breastfeeding and/or pumping in the workplace.

- Encourage employers to collaborate with other interested organizations to protect and promote breastfeeding and/or pumping in the workplace.

Objective 3.2: By 2008, develop and implement a statewide data collection system to evaluate the impact of South Dakota workplace wellness programs.

Strategies:

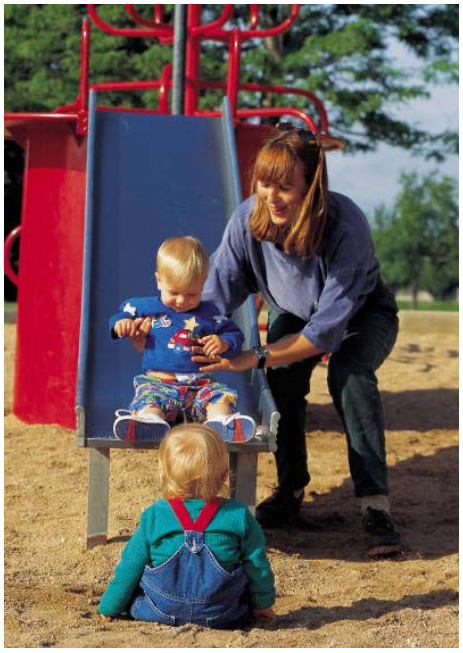
- Establish criteria for workplace wellness programs that support an environment for healthy eating and physical activity.

- Choose workplaces that will pilot the data collection form and process.

- Create a database system to input programming outcomes and share data.

Community

Introduction



Communities strongly influence the lives and lifestyles of their members. The Socio-Ecological Model indicates that individual behavior can be influenced at multiple levels: individual, interpersonal, organizational, community, and public policy. How communities are organized and developed plays a major role in how people choose to live, work, and play. Healthy communities are those that embrace the belief that health is more than merely an absence of disease; a healthy community includes those elements that enable people to maintain a high quality of life and productivity. The US Department of Health and Human Services publication, *Healthy People in Healthy Communities* defines healthy communities as those that 1) offer access to health care services that focus on both treatment and prevention for all members of the community, 2) have roads, schools, playgrounds, and other services to meet the needs of the people in that community, and 3) have a healthy and safe environment.[35]

In developing this healthy community attitude, communities must also be mindful of the special needs of populations such as seniors, people with disabilities, rural citizens, and Native Americans and other minorities. One such example is the realization that the intensity of recommended physical activity for the senior population needs to be different than that recommended for the general population. To obtain the nutrition necessary for healthy living, people age 60 or older and their spouses can eat at Senior Meals sites throughout the state. Senior Meals are served in a group setting such as a senior center or community building. Senior Meals may also be delivered to individuals who are homebound. Tailoring environments and resources for persons with disabilities is essential to allowing access to physical activity and nutrition options. Recognizing the special needs of low-income community members as well as those living in rural communities should also be considered as policies are developed.

As communities grow or shrink, they also need to be cognizant of the needs of the general population. For example, modern transportation systems provide convenience, but have led to less walking and physical activity. Parents drive their children to school because of distance, school consolidation, and in some cases, neighborhood safety issues. As small rural communities lose retail businesses and churches, rural residents spend more and more time driving to meet their needs. These and other issues call for recognition and understanding if changes are to materialize that direct community-led strategies for a more active lifestyle.

Community leaders can be instrumental in providing education and leading the charge to coordinate resources to promote healthy lifestyle changes among the members of their community. Community strategies such as expanding bike paths and park systems and promoting healthy food choices in public facilities can be effective. Other success factors include involving many partners in the community. "Communities experiencing the most success in addressing health and quality-of-life issues have involved many components of their community……Community-based approaches in conjunction with targeted approaches in schools, healthcare, and worksites increase the likelihood for success to improve personal and community health," according to Healthy People 2010.[36]

The state of South Dakota has developed the Strides to a Healthier Community, a resource that outlines community-based interventions involving community planning and creating environments for healthy eating and physical activity. The lists of activities in this resource document provide healthy lifestyle strategies for communities to follow. This resource can be found on the http://www.HealthySD.gov website. There are a variety of examples being piloted in South Dakota that provide best practices to share with other communities wanting to make change. Municipal government, health care systems, and economic development groups have been the springboard for making change in South Dakota communities. Workgroups of committed individuals have provided guidance to assess community needs and provide recommendations for change. The workgroups evaluated the environment and policy of their community and in some cases conducted surveys to collect information from community members regarding their needs to making healthy choices related to increased physical

activity and healthy eating. Community-wide awareness campaigns, public education opportunities, community walking programs, healthy choices on restaurant menus, environment improvements (such as installing sidewalks), and peer support programs (such as those for breastfeeding mothers) are a few of the results of this important work.

The goal and associated objectives and strategies in this chapter can assist in promoting healthy choices for any community wishing to take the challenge. Although "community" can be defined a number of ways, for the purpose of this plan, communities are defined as the municipalities, their residents, area public lands, and the nearby rural residents. South Dakota has 309 cities, 14 over 5,000 population, 105 between 500 and 5,000 population, and 189 under 500 population. Many of the objectives and strategies can also apply to those living in frontier and rural areas of South Dakota and their non-incorporated, but self-defined, neighborhoods and communities.

Goal, Objectives, and Strategies

Goal: To promote healthy lifestyles and reduce chronic disease in South Dakota communities through healthy eating and physical activity.

Objective 4.1: By 2010, provide documentation of 25 South Dakota communities that have evaluated their policies and environments concerning healthy eating and physical activity and the changes made to help enhance the community's wellness.

General Strategies:

- Gather baseline data to determine how many communities have comprehensive policies and environments that support healthy eating and physical activity.

- Organize community health councils in each community to develop a wellness plan that supports healthy lifestyles for the communities' members.

- Increase awareness of the health and economic impact of being overweight and obese through presentations, health fairs, and other communication avenues available in communities.

- Develop a statewide community wellness committee to network and provide communities with "community wellness toolkits" to successfully and effectively implement health promotion and management programs and services.

- Develop a statewide incentive program for communities that offer comprehensive community wellness programs and services.

- Develop a list of best practices to identify and facilitate appropriate interventions and incentives for healthy eating and physical activity.

- Collaborate with partners and policymakers to develop ways to impact environment and policy changes in communities to increase opportunities for community wellness.

- Support health care systems, park and recreation agencies, schools, senior centers, senior residences, and other providers to promote physical activity and healthy eating.

- Implement social marketing/media campaigns that target wide audiences and involve the use of television, radio, newspapers, and magazines.

- Appoint a committee to establish awards criteria and the process by which awards will be distributed to communities that implement wellness plans.

Physical Activity Strategies:

- Recommend that communities assess and plan for healthy community design and/or redesign in both rural and urban areas, to include sidewalks and greenways that provide greater access for physical activity.

- Provide accessible, age-appropriate, and culturally-appropriate physical fitness education and wellness programs to individuals and/or groups.

- Provide incentives for participation in physical fitness education and wellness programs.

- Promote physical activity through approaches such as local facilities, instructor-led classes, physical activity paths, outdoor areas, and access to public facilities such as school gyms, malls, and state and municipal parks.

- Provide support for facilities, equipment, staff, and programs to enhance physical activity and fitness.

- Encourage programs such as time without TV and others that promote time away from TVs, computers, and electronic games and devices as a strategy for families to increase physical activity, i.e., Turn Off the TV Night.

- Support community development that provides for safer communities, such as better street lighting, guard rails, crossing guards, and increased law enforcement.

Healthy Eating Strategies:

- Provide age-appropriate, culturally-appropriate healthy eating education and wellness programs to individuals and/or groups.

- Provide incentives for participation in healthy eating education and wellness programs.

- Create a culture of healthy eating by providing healthy food options in public vending machines.

- Work with local restaurants and the restaurant trade associations to create a culture of healthy eating by providing healthy menu selections.

- Collaborate with local produce growers to provide fresh fruits and vegetables through a farmer's market concept.

- Work with community leaders, businesses, and organizations to provide affordable and convenient healthy food options at community events.

- Collaborate with community leaders and garden clubs to create policies and designate areas for community gardens.

- Implement campaigns to educate parents and community members on the benefits of good health which includes a healthy attitude towards appropriate portions and selection of foods according to the “My Pyramid” recommendations.

- Implement campaigns to educate parents and community partners on the importance of family meal times for healthy eating and weight maintenance.

- Create programs in which local schools, youth organizations, child care centers, senior nutrition centers, health care facilities, and grocery stores collaborate in buying to improve access to increased food options and healthy food choices on a consistent basis.

- Develop materials for restaurants and convenience stores to include healthy choices with appropriate portion sizes for children.

Breastfeeding Strategies:

- Collaborate with community and service organizations to develop incentives to promote breastfeeding.

- Promote the development of “breastfeeding-friendly” daycare facilities.

- Establish public places where women can breastfeed their children in a private, comfortable setting.

- Select eight communities that will pilot a breastfeeding peer-counseling project, at least one of which is an American Indian community.

- Promote and provide breastfeeding resources to community policymakers.

- Implement media campaigns directed at fathers and others who influence a woman’s decision to breastfeed.

<u>Objective 4.2:</u> By 2008, develop and implement a statewide data collection system to evaluate the nutrition and physical activity policies and environments of South Dakota communities.

Strategies:

- Establish criteria for communities that define comprehensive policies and environments that support healthy eating and physical activity.

- Choose communities that will pilot the data collection form and process.

- Create a database system to input programming outcomes and share data.

Health Care

Introduction

Overweight and obesity, leading causes of preventable death second only to tobacco use, pose a major public health challenge. However, many opportunities exist within health care settings to positively impact this issue for patients of all ages, from primary prevention to the treatment of overweight, obesity, and other related chronic diseases.

Health care providers are in a unique position to affect change on multiple levels in individuals, communities, and health care systems. Specifically, health care providers are important catalysts for obesity prevention. Health care providers can impact obesity prevention by recommending physical activity and healthy eating interventions for patients and their families. Health care providers are equally as important in the treatment and control of obesity. Unfortunately, patients and health care providers alike often do not take advantage of this relationship. According to the 2003 BRFSS, only 15.4% of overweight and obese South Dakota adults reported they were advised to lose weight by a health professional.[11] Fortunately, a number of science-based strategies are available for health

care providers to promote and support with their patients to prevent and treat obesity. Those strategies include: increasing physical activity; improving nutrition through increased consumption of fruits and vegetables; reducing screen time; increasing breastfeeding; and balancing caloric intake and expenditure.

Universities and colleges that train health care providers are equally important partners in the effort to battle the obesity epidemic. Post-secondary institutions are fundamental in the development of curricula, tools, and best practices that will be utilized by future health care providers. The ability of future health care providers to interpret curricula and effectively translate it for patient education is key. Lastly, it is imperative that health care providers have the interpersonal technique to support patients to make lifestyle changes.

> ***"Walking is man's best medicine."***
>
> -Hippocrates

Several efforts have been made in South Dakota to enhance the role of health care. For example, the Office of Medical Services in the Department of Social Services, in collaboration with SDDOH, provided adult obesity prevention and treatment guidelines to primary care providers in the state and included obesity prevention information to parents of children on Medicaid and SCHIP programs. In addition, major health care systems have established prevention programs for worksite wellness.

The following objectives and strategies are recommendations for beneficial changes that could be made at various stages in the health care setting and influence change on the health and economic impacts of obesity.

Goal, Objectives, and Strategies

Goal: Increase support for physical activity and healthy eating within South Dakota health care systems and among health care providers in order to achieve a healthy Body Mass Index (BMI) for all South Dakotans.

Objective 5.1: By 2007, provide obesity prevention resources and tools to 90% of practicing health care providers in South Dakota.

Strategies:

- Collaborate with professional organizations to develop physical activity and healthy eating materials for health care providers to use with their patients.
- Identify local physical activity and healthy nutrition resources for health care providers to promote.
- Provide technical assistance and information on the assessment of lifestyle behaviors to health care providers.
- Provide health care providers access to resources and educational materials that promote and support breastfeeding**.**
- Assist health care providers to access online resources on current breastfeeding practices and lactation consultant locations**.**

Objective 5.2: By 2010, increase by 75% the proportion of South Dakota medical, nursing, and allied health programs, where appropriate, that include core competencies in obesity prevention, assessment of weight status, and weight management in their curricula.

Strategies:

- Establish baseline for current curricula in appropriate programs.
- Develop, as needed, standardized curricula to include core competencies in obesity prevention, assessment of weight status, and weight management.

- Recommend standardized curricula for medical, nursing, and allied health programs.

- Recommend opportunities for medical, nursing, and allied health programs to complete student community projects to promote public awareness of obesity prevention strategies.

Objective 5.3: By 2010, through increased support in health care settings increase to 75% the proportion of infants ever breastfed, to 50% the proportion of infants breastfed at 6 months, and to 25% the proportion of infants breastfed at one year.

Strategies:

- Educate South Dakota hospitals, including Indian Health Service (IHS) facilities, on the advantages of on-site lactation consultant services.

- Increase the number of lactation consultants statewide.

- Pursue systems of reimbursement for lactation consultant services and efficient double electric breast pumps.

- Provide policies and best practices to hospitals to assist with implementing standards of care, as outlined in the Baby Friendly Hospital Initiative.

- Provide technical assistance on implementation of the Baby Friendly Hospital Initiative.

- Train 25 prenatal educators to use breastfeeding curricula within the prenatal instruction course.

- Provide incentives to hospitals with low breastfeeding initiation rates, including IHS, to promote, encourage, and support breastfeeding.

- Assist South Dakota hospitals and clinics in developing incentives for new mothers to breastfeed.

Objective 5.4: By 2010, decrease by 10% the proportion of South Dakotans already overweight or obese.

Strategies:

- Encourage health care systems to establish multi-disciplinary treatment programs and centers for overweight children and adolescents.

- Encourage health care systems to establish a network of multi-disciplinary treatment programs and centers for obese adults.

- Partner with third party payers to reimburse for obesity treatment starting with lifestyle behavior change therapies.

Objective 5.5: By 2010, increase by 50% the proportion of health care systems in South Dakota that support and promote physical activity and healthy eating.

Strategies:

- Encourage health care systems to provide healthy dietary choices for visitors and employees.

- Provide guidelines to health care systems to assess dietary choices in food and beverage vending machines.

- Increase the number of health care systems that implement policies and programs to promote physical activity and healthy eating by their employees.

- Provide public education materials for hospital and clinic waiting rooms and lobbies which promote healthy eating and physical activity.

- Provide technical assistance to health care systems for the development of community-wide obesity prevention campaigns and events.

- Provide technical assistance to health care systems in order to increase public awareness of obesity prevention strategies.

- Develop and distribute standards for discharge education concerning healthy eating and physical activity.

- Pursue systems of reimbursement for obesity prevention and lifestyle modification counseling.

- Develop assessment tool and establish baseline.

<u>Objective 5.6:</u> By 2007, provide four continuing education credit opportunities annually for health care providers on topics related to obesity prevention, nutrition, physical activity, or health behavior change strategies.

Strategies:

- Educate health care providers to routinely document Body Mass Index (BMI) in adults and BMI-for-age percentile in children and youth (2-20 years).

- Educate health care providers to assess physical activity levels in their patients and provide patient education to increase physical activity and decrease sedentary activity.

- Educate health care providers to assess nutritional risk in their patients and provide patient education regarding healthy nutrition.

- Encourage health care providers to utilize electronic communications to increase public awareness of obesity risks and to improve communication with patients.

- Educate health care providers and prenatal educators to promote and encourage breastfeeding for expecting parents.

Surveillance and Evaluation

Evaluation efforts are ongoing to effectively determine the impact of the strategies planned or implemented in South Dakota. Data is currently collected in various surveys which cover a wide range of South Dakota's population. The data will assist in evaluating the long-term effectiveness of this plan in meeting the plan objectives and any corresponding Healthy People 2010 Objectives. Specific evaluation activities will assess the short-term and intermediate changes.

The stakeholders recommended data collection of new variables for a number of objectives within the plan, thus new surveillance tools may be developed to collect this data. Strategies that will require additional assessment and data collection are as follows:

- consumption of fruits and vegetables by children 2-18 years old;
- early childhood programs that adopt a physical activity program policy;
- employers that offer workplace wellness programs and evaluation of the impact of those programs;
- communities with comprehensive policies and environments that support healthy eating and physical activity;

- medical, nursing, and allied health program curricula that include core competencies in obesity prevention, assessment of weight status, and weight management; and
- health care systems that support and promote physical activity and healthy eating.

The subsequent information in this chapter includes a listing of all the plan objectives and their corresponding evaluation indicators. In some instances, current data will be used as the evaluation indicator until additional assessment and data collection are available. The evaluation results will be reported to the partners involved in implementing this plan. The evaluation indicators will be reviewed annually.

Parents and Caregivers

Objective 1.1: By 2010, increase to 40% the proportion of children ages 2 – 18 who consume five or more servings of fruits and vegetables per day.
Evaluation indicator: By 2010, determine the percentage of high school students who consume five or more servings of fruit and vegetables per day as reported in the Youth Risk Behavior Survey (YRBS) Report.

Objective 1.2: By 2010, reduce the proportion of pre-school children, school age children, and adolescents who are at risk of overweight or overweight.
Evaluation indicator: By 2010, determine the proportion of children and adolescents who are at risk of overweight or overweight as reported by the Pediatric Nutrition Surveillance System (PedNSS) report and the School Height and Weight Report.

Objective 1.3: By 2008, increase by 15% the proportion of early childhood programs that adopt a physical activity program policy for children.
Evaluation indicator: By 2006, measure the number of early childhood programs which adopt physical activity program policy at baseline. By 2008, calculate percent increase.

Objective 1.4: By 2010, increase to 75% the proportion of infants who are ever breastfed.
Evaluation indicator: By 2010, measure the proportion of infants who are ever breastfed as determined by the National Immunization Survey breastfeeding data.

Objective 1.5: By 2007, distribute public education materials and resources on the impact of overweight and obesity to at least 50,000 parents and caregivers.
Evaluation indicator: By 2007, report the number of public education materials and resources distributed to target audience.

Objective 1.6: By 2008, distribute information regarding the importance of healthy physical activity patterns for children to at least 50,000 parents and caregivers.
Evaluation indicator: By 2008, measure the amount of information distributed to target audience.

Objective 1.7: By 2010, increase to 50% the proportion of infants breastfed at 6 months and to 25% the proportion of infants breastfed at one year.
Evaluation indicator: By 2010, measure the proportion of infants breastfed at six months and at one year as determined by the National Immunization Survey breastfeeding data.

Schools and Youth Organizations

Objective 2.1: By 2010, all South Dakota K-8 schools will provide 150 minutes per week of physical education and 25% of South Dakota high schools will provide 225 minutes per week of physical education.
Evaluation indicator: By 2010, measure the number of South Dakota K-8 schools providing 150 minutes per week of physical education and the number of South Dakota high schools providing 225 minutes per week of physical education.

Objective 2.2: By 2010, establish comprehensive, sequential K-12 health education, focusing on nutrition education and physical activity in all South Dakota schools.
Evaluation indicator: By 2010, measure the number of schools which provide sequential K-12 health education, focusing on nutrition education and physical activity.

Objective 2.3: By 2010, all South Dakota communities and youth organizations that serve food will adopt nutrition standards as outlined in the South Dakota Department of Education Model School Wellness Policy.
Evaluation indicator: By 2010, measure the number of schools and youth organizations that serve food that adopt nutrition standards as outlined in the South Dakota Department of Education Model School Wellness Policy.

Objective 2.4: By 2007, develop a pilot project involving ten (10) youth organizations to increase physical activity opportunities for youth.
Evaluation indicator: By 2007, document the development of the pilot project and the outcomes from the project.

Objective 2.5: By 2007, 85% of the school districts and youth organizations in South Dakota will designate a wellness coordinator who will serve as a contact person for all nutrition and physical activity communications.
Evaluation indicator: By 2007, measure the number of school districts and youth organizations with a designated wellness coordinator.

Objective 2.6: By 2006, provide all school districts and youth organizations with information on improving youth fruit and vegetable consumption.
Evaluation indicator: By 2006, measure the number of school districts and youth organizations who received information on improving youth fruit and vegetable consumption.

Objective 2.7: By 2007, expand and promote the HealthySD.gov website as a network for information and resources for all schools and youth organizations.
Evaluation indicator: Measure the number of individuals who use the schools section of the HealthySD.gov website at baseline and in 2007.

Workplace

Objective 3.1: By 2010, establish 50 additional workplace wellness programs that support an environment for healthy eating and physical activity.
Evaluation indicator: Measure the number of workplace wellness programs and determine whether they support an environment for healthy eating and physical activity at baseline and 2010.

Objective 3.2: By 2008, develop and implement a statewide data collection system to evaluate the impact of South Dakota workplace wellness programs.
Evaluation indicator: Document that a statewide data collection system is functional and is able to collect and evaluate information regarding the impact of SD workplace wellness programs by 2008.

Community

Objective 4.1: By 2010, provide documentation of 25 South Dakota communities that have evaluated their policies and environments concerning healthy eating and physical activity and the changes made to help enhance the community's wellness.
Evaluation indicator: Measure the number of communities that create policies and environments that support healthy eating and physical activity at baseline and in 2010.

Objective 4.2: By 2008, develop and implement a statewide data collection system to evaluate the nutrition and physical activity policies and environment of South Dakota communities.
Evaluation indicator: Document that a statewide data collection system is functional and is able to collect and evaluate information regarding the impact of physical activity policies and environments in communities by 2008.

Health Care

Objective 5.1: By 2007, provide obesity prevention resources and tools to 90% of practicing health care providers in South Dakota.
Evaluation indicator: Measure the number of health care providers in the state and the number of health care providers that received the tools by 2007.

Objective 5.2: By 2010, increase by 75% the proportion of South Dakota medical, nursing, and allied health programs, where appropriate, that include core competencies in obesity prevention, assessment of weight status, and weight management in their curricula.
Evaluation indicator: Evaluate the curricula at baseline and in 2010 for core competencies listed above.

Objective 5.3: By 2010, through increased support in health care settings increase to 75% the proportion of infants ever breastfed, to 50% the proportion of infants breastfed at 6 months, and to 25% the proportion of infants breastfed at one year.
Evaluation indicator: By 2010, measure the proportion of infants ever breastfed, breastfed at 6 months, and breastfed at one year as determined by the National Immunization Survey breastfeeding data.

Objective 5.4: By 2010, decrease by 10% the proportion of South Dakotans already overweight or obese.
Evaluation indicator: Measure the number of South Dakotans overweight or obese at baseline 2005 and in 2010 as determined by the BRFSS survey.

Objective 5.5: By 2010, increase by 50% the proportion of health care systems in South Dakota that support and promote physical activity and healthy eating.
Evaluation indicator: Measure the number of health care systems in SD that support and promote physical activity and healthy eating at baseline and in 2010.

Objective 5.6: By 2007, provide four continuing education credit opportunities annually for health care providers on topics related to obesity prevention, nutrition, physical activity, or health behavior change strategies.
Evaluation indicator: By 2007, document the continuing education opportunities.

Appendix A:

Glossary and Resources

***At risk of overweight*:** In Body Mass Index measurements, at risk of overweight is defined as a gender and age specific BMI at or above the 85th percentile and below the 95th percentile for children aged 2 to 20 years.

***Baby Friendly Hospital Initiative*:** The Baby Friendly Hospital Initiative (BFHI) is a global program sponsored by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) to encourage and recognize hospitals and birthing centers that offer an optimal level of care for lactation. The BFHI assists hospitals in giving breastfeeding mothers the information, confidence, and skills needed to successfully initiate and continue breastfeeding their babies and gives special recognition to hospitals that have done so. More information on this initiative is available online at http://www.babyfriendlyusa.org/.

***Behavioral Risk Factor Surveillance System (BRFSS)*:** BRFSS is a cross-sectional random-digit dial telephone survey of non-institutionalized adults aged 18 and older. This ongoing data collection effort examines the health behaviors of adults and provides national and state data for trends in obesity and related topic areas. More information is available online at http://www.state.sd.us/doh/Stats/.

***Body Mass Index (BMI)*:** BMI is a tool for measuring weight status in both youth and adults. BMI is the commonly accepted index for the classification of overweight and obesity in adults and is recommended to identify children and adolescents who are underweight, overweight, or at risk of overweight when compared to the same age and gender.

***BMI formula*:** $\text{BMI} = \frac{\text{Weight in Pounds}}{(\text{Height in inches}) \times (\text{Height in inches})} \times 703$

Stated another way, BMI = body weight in pounds divided by height in inches squared multiplied by 703.

***Childhood overweight*:** A description of children aged 2-20 with a gender and age specific BMI value equal to or greater than the 95th percentile.

***Community*:** For the purpose of this plan, communities are defined as the municipalities, their residents, area public lands, and the nearby rural residents who identify with those municipalities of South Dakota.

***Digital Dakota Network*:** A state-supported digital communication system that delivers high-speed data connectivity and high-quality video conferencing capabilities.

***Health care provider*:** Physicians, physician assistants, nurse practitioners, nurses, and other allied health professionals.

Health care system: A system comprised of the organizations, institutions, and resources that are devoted to producing a health action, whether in personal health care or in public

health services, whose primary purpose is to improve the health of the general population or a specified and recognized segment of the general population. In South Dakota, the primary health care systems are Avera Health, Community Health Centers, Indian Health Service, Rapid City Regional, Sioux Valley Health System, and the Veteran's Health Administration.

Health education: The intent of comprehensive school health education is to motivate students to maintain and improve their health, prevent disease, and avoid or reduce health-related risk behaviors. It also provides students with the knowledge and skills they need to be healthy for a lifetime.

***Healthy eating*:** A dietary pattern consistent with the Dietary Guidelines for Americans.

Macronutrients: The macronutrient groups are carbohydrates, proteins, and fats.

***Minds in Motion*:** A program for youth in the classroom that aligns physical activities with learning objectives and content standards, allowing students to enhance learning while being physically active.

Model School Wellness Policy: In the Child Nutrition and WIC Reauthorization Act of 2004, PL 105-268, the U.S. Congress established a new requirement for all local agencies (including public and nonpublic, as well as residential child care institutions) with a federally funded National School Lunch program. The local agencies are required to develop and implement wellness policies that address nutrition and physical activity by the start of the 2006-2007 school year. In response to this requirement the South Dakota Department of Education (SDDOE) convened a work group consisting of health, physical activity, nutrition,

and education professionals representing a variety of organizations, plus students and parents, to develop a wellness policy for local agencies. The model wellness policy developed by SDDOE and approved September 20, 2005 by the South Dakota Board of Education meets the new federal requirement.

***MyPyramid*:** MyPyramid is a food guidance system from the U.S. Department of Agriculture that provides many options to help Americans make healthy food choices and be active every day. More information on MyPyramid is available at http://www.mypyramid.gov/.

Nutrition education: Nutrition education should follow the current dietary guidelines from USDA and follow teaching methods recommended by nationally recognized nutrition experts such as the American Dietetic Association and Society for Nutrition Educators. Students need to receive enough nutrition education to understand the science and math of how what they eat and drink affects their health as well as enough practical, hands on, behaviorally based nutrition education to increase their consumption of healthy options.

***Obesity*:** In Body Mass Index measurements, obesity is defined as a BMI equal to or greater than 30.0 in adults.

***Overweight*:** In Body Mass Index measurements, overweight is defined as a BMI between 25.0 and 29.9 in adults. For children two to twenty years, overweight is defined as BMI-for-age equal to or greater than the 95th percentile.

Pediatric Nutrition Surveillance System (PedNSS): A program of the Centers for Disease Control and Prevention that collects nutritional data by using the records of infants and children, especially those participating in the South Dakota Special Supplemental Nutrition Program for Women, Infants and Children (WIC). More information is available online at http://www.state.sd.us/doh/Stats/.

***Physical activity*:** Physical activity is a bodily movement of any type and may include recreational, fitness, and sport activities such as jumping rope, playing soccer, lifting weights, as well as daily activities such as walking to the store, taking the stairs, or raking the leaves.

Physical education: School physical education, taught through a well-defined curriculum by highly qualified physical education teachers, provides physical activity to all children and teaches them the skills and knowledge needed to establish and sustain an active lifestyle. Physical education teachers assess student knowledge, motor and social skills, and provide instruction in a safe, supportive environment. The National Association for Sport & Physical Education recommends that schools provide 150 minutes of physical education for elementary school children, and 225 minutes for middle and high school students every day of the week for the entire school year.

Satiety: Satiety refers to the feeling of satisfaction or "fullness" produced by the consumption of food.

***Sedentary lifestyle*:** A lifestyle characterized by little or no physical activity.

South Dakota Breastfeeding Coalition: The Mission of the South Dakota Breastfeeding Coalition is to create a breastfeeding culture such that breastfeeding is the expected norm for all babies. The coalition accomplishes this by providing a voice, advocacy, and professional development toward improved breastfeeding outcomes for all our babies. More information is available online at http://usd.edu/med/family/breastfeedingcoaltition/.

South Dakota School Height and Weight Report: A summary of South Dakota student height and weight data collected by the South Dakota Department of Health in cooperation with the South Dakota Department of Education. More information is available online at http://www.state.sd.us/doh/SchoolWeight/.

***Strides to a Healthier Community*:** A resource developed to help South Dakota communities become healthier places to live and work. This technical assistance guide provides steps to plan and implement a program and is available online at http://www.healthysd.gov/documents/StrideCommunity.pdf.

***Strides to a Healthier Worksite*:** A resource developed to assist workplaces in implementing their own wellness program. This technical assistance guide provides steps necessary to plan and establish a program and is available online at http://www.healthysd.gov/Workplace.html.

***Turn Off the TV Night*:** A strategy aimed at families to encourage them to become more physically active at least one night per week as opposed to the more sedentary activities of watching television, playing video games, and recreational computer usage.

United States Breastfeeding Committee (USBC): The USBC is a collaborative partnership of organizations. The mission of the committee is to protect, promote, and support breastfeeding in the U.S. The USBC exists to assure the rightful place of breastfeeding in society. More information is available online at http://www.usbreastfeeding.org.

WIC: The South Dakota Special Supplemental Nutrition Program for Women, Infants and Children. It is funded by the Department of Agriculture and administered in South Dakota by the South Dakota Department of Health, the Rosebud Sioux Tribe, the Cheyenne River Sioux Tribe, and the Standing Rock Sioux Tribe. The goal of the WIC program is to promote and maintain the health and well-being of nutritionally at-risk women, infants, and young children.

www.HealthySD.gov **:** A website created by the South Dakota Department of Health to help all South Dakotans develop a healthy lifestyle by becoming more physically active and eating healthier foods. More information is available online at http://www.healthysd.gov/.

Years of Potential Life Lost (YPLL): A widely-used estimate of premature mortality, defined as the number of years of life lost among persons who die before age 75. YPLL is the sum of the differences between age 75 and the age at death for everyone who died before age 75.

Youth Risk Behavior Survey (YRBS): A questionnaire that assesses six priority health-risk behaviors among high school students: intentional and unintentional injuries; tobacco use; alcohol and other drug use; sexual behaviors that result in HIV infection; other sexually transmitted diseases and unintended pregnancy; dietary behaviors; and physical activity. The survey is conducted on a national and statewide basis. More information is available online at http://doe.sd.gov/oess/schoolhealth/yrbs/2003.asp.

Appendix B:

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Appendix C:

Objectives and Partners Table

Parents and Caregivers

Objective	Key Partners	Lead Partners
Objective 1.1: By 2010, increase to 40% the proportion of children ages 2 – 18 who consume five or more servings of fruit and vegetables per day.	♦ Boys & Girls Clubs ♦ Child Adult Nutrition Services-DOE ♦ Child Care Services-DSS ♦ Coordinated School Health-DOE/DOH ♦ Diabetes-DOH ♦ Girl Scouts ♦ Nutrition and Physical Activity Program-DOH ♦ Nutrition Council ♦ SD Comprehensive Cancer Control ♦ SD Dietetics Association ♦ SDSU Cooperative Extension ♦ SDSU Dietetics ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System ♦ Women, Infants and Children-DOH	♦ Nutrition and Physical Activity Program-DOH ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System

Objective	Key Partners	Lead Partners
Objective 1.2: By 2010, reduce the proportion of pre-school children, school age children and adolescents who are at risk of overweight or overweight.	♦ American Heart Association ♦ Child Adult Nutrition Services-DOE ♦ Child Care Services-DSS ♦ Coordinated School Health-DOE/DOH ♦ Diabetes-DOH ♦ Girl Scouts ♦ Indian Health Service ♦ Maternal Child Health-DOH ♦ Nutrition and Physical Activity Program-DOH ♦ Nutrition Council ♦ SD Action For Healthy Kids ♦ SD Dietetics Association ♦ SD Parks and Recreation Association ♦ SD State Medical Association ♦ SD State Parks-GFP ♦ SDSU Cooperative Extension ♦ SDSU Dietetics ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System ♦ Women, Infants and Children-DOH	♦ Nutrition and Physical Activity Program-DOH ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System
Objective 1.3: By 2008, increase by 15% the proportion of early childhood programs that adopt a physical activity program policy for children.	♦ Child Care Services-DSS ♦ Indian Health Service ♦ SDSU Dietetics ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System	♦ Child Care Services-DSS ♦ Sioux Valley Health System

Objective	Key Partners	Lead Partners
Objective 1.4: By 2010, increase to 75% the proportion of infants who are ever breastfed.	♦ Indian Health Service ♦ Maternal Child Health-DOH ♦ Nutrition and Physical Activity Program-DOH ♦ SD Association of Healthcare Organizations ♦ SD Breastfeeding Coalition ♦ SD Dietetics Association ♦ SDSU Dietetics ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System ♦ Women, Infants and Children-DOH	♦ Nutrition and Physical Activity Program-DOH ♦ SD Breastfeeding Coalition ♦ Women, Infants and Children-DOH
Objective 1.5: By 2007, distribute public education materials and resources on the impact of overweight and obesity to at least 50,000 parents and caregivers.	♦ Boys & Girls Clubs ♦ Child Adult Nutrition Services-DOE ♦ Child Care Services-DSS ♦ Community Health Services-DOH ♦ Coordinated School Health-DOE/DOH ♦ Diabetes-DOH ♦ Girl Scouts ♦ Indian Health Service ♦ Nutrition and Physical Activity Program-DOH ♦ Oral Health-DOH ♦ SD Dietetics Association ♦ SD Nurses Association ♦ SD Parks and Recreation Association ♦ SD State Parks-GFP ♦ SDSU Cooperative Extension ♦ SDSU-Health Promotion ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System ♦ South Dakota State Medical Association ♦ Women, Infants and Children-DOH	♦ Boys & Girls Clubs ♦ Nutrition and Physical Activity Program-DOH ♦ SD Action for Healthy Kids ♦ SDSU Dietetics ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System

Objective	Key Partners	Lead Partners
Objective 1.6: By 2008, distribute information regarding the importance of healthy physical activity patterns for children to at least 50,000 parents and caregivers.	♦ Boys & Girls Clubs ♦ Child Adult Nutrition Services-DOE ♦ Child Care Services-DSS ♦ Community Health Services-DOH ♦ Coordinated School Health-DOE/DOH ♦ Diabetes-DOH ♦ Girl Scouts ♦ Indian Health Service ♦ Maternal Child Health-DOH Oral Health-DOH ♦ Nutrition and Physical Activity Program-DOH ♦ SD Parks and Recreation Association ♦ SD State Parks-GFP ♦ SDSU-Health Promotion ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System ♦ South Dakota State Medical Association	♦ Child Care Services-DSS ♦ Nutrition and Physical Activity Program-DOH ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System
Objective 1.7: By 2010, increase to 50% the proportion of infants breastfed at 6 months and to 25% the proportion of infants breastfed at one year.	♦ Child Adult Nutrition Services-DOE ♦ Indian Health Service ♦ Maternal Child Health-DOH ♦ SD Breastfeeding Coalition ♦ SD Dietetics Association ♦ SDSU Dietetics ♦ Sioux Valley Health System ♦ US Breastfeeding ♦ Women, Infants and Children-DOH	♦ SD Breastfeeding Coalition

Schools and Youth Organizations

Objective	Key Partners	Lead Partners
Objective 2.1: By 2010, all South Dakota K-8 schools will provide 150 minutes per week of physical education and 25% of South Dakota high schools will provide 225 minutes per week of physical education.	♦ Coordinated School Health-DOE/DOH ♦ SD Association for Health, Physical Education, Recreation and Dance ♦ SD Comprehensive Cancer Control ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System	♦ American Heart Association ♦ Coordinated School Health-DOE/DOH ♦ SD Association for Health, Physical Education, Recreation and Dance
Objective 2.2: By 2010, establish comprehensive, sequential K-12 health education, focusing on nutrition education and physical activity in all South Dakota schools.	♦ American Heart Association ♦ Child Adult Nutrition Services-DOE ♦ Coordinated School Health-DOE/DOH ♦ Indian Health Service ♦ Oral Health-DOH ♦ SD Breastfeeding Coalition ♦ SD Comprehensive Cancer Control ♦ SD Dietetics Association ♦ SDSU Dietetics ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System ♦ USD Dietetics Program	♦ Coordinated School Health-DOE/DOH ♦ SD Association for Health, Physical Education, Recreation and Dance ♦ SD Dietetics Association ♦ SDSU Dietetics
Objective 2.3: By 2010, all South Dakota communities and youth organizations that serve food will adopt nutrition standards as outlined in the South Dakota Department of Education Model School Wellness Policy.	♦ American Heart Association ♦ Diabetes-DOH ♦ School Nutrition Association of SD ♦ SD Action For Healthy Kids ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System ♦ USD Dietetics Program	♦ Child Adult Nutrition Services-DOE ♦ Coordinated School Health-DOE/DOH ♦ School Nutrition Association of SD

Objective	Key Partners	Lead Partners
Objective 2.4: By 2007, develop a pilot project involving ten (10) youth organizations to increase physical activity opportunities for youth.	♦ Boys & Girls Clubs ♦ Child Care Services-DSS ♦ Coordinated School Health-DOE/DOH ♦ Girl Scouts ♦ Indian Health Service ♦ Nutrition and Physical Activity Program-DOH ♦ Out of School Time-DSS ♦ SD Parks and Recreation Association ♦ SD State Parks-GFP ♦ SDSU Cooperative Extension ♦ SDSU-Health Promotion ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System	♦ Child Adult Nutrition Services-DOE
Objective 2.5: By 2007, 85% of the school districts and youth organizations in South Dakota will designate a wellness coordinator who will serve as a contact person for all nutrition and physical activity communications.	♦ Boys & Girls Clubs ♦ Child Adult Nutrition Services-DOE ♦ Indian Health Service ♦ Oral Health-DOH ♦ SD Dietetics Association ♦ SDSU Dietetics ♦ SDSU-Health Promotion ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System ♦ USD Dietetics Program	♦ Coordinated School Health-DOE/DOH

Objective	Key Partners	Lead Partners
Objective 2.6: By 2006, provide all school districts and youth organizations with information on improving youth fruit and vegetable consumption.	♦ Boys & Girls Clubs ♦ Community Health Services-DOH ♦ Coordinated School Health-DOE/DOH ♦ Girl Scouts ♦ Indian Health Service ♦ Maternal Child Health-DOH Oral Health-DOH ♦ Nutrition and Physical Activity Program-DOH ♦ SDSU Cooperative Extension ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System	♦ Child Adult Nutrition Services-DOE
Objective 2.7: By 2007, expand and promote the HealthySD.gov website as a network for information and resources for all schools and youth organizations.	♦ American Heart Association ♦ Boys & Girls Clubs ♦ Child Adult Nutrition Services-DOE ♦ Child Care Services-DSS ♦ Coordinated School Health-DOE/DOH ♦ Diabetes-DOH ♦ Girl Scouts ♦ Indian Health Service ♦ Nutrition and Physical Activity Program-DOH ♦ Oral Health-DOH ♦ Out of School Time-DSS ♦ School Nutrition Association of South Dakota ♦ SD Association for Health, Physical Education, Recreation and Dance ♦ SD Parks and Recreation Association ♦ SDSU Cooperative Extension ♦ SDSU-Health Promotion ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System	♦ Nutrition and Physical Activity Program-DOH

Workplace

Objective	Key Partners	Lead Partners
Objective 3.1: By 2010, establish 50 additional workplace wellness programs that support an environment for healthy eating and physical activity.	♦ American Cancer Society ♦ American Heart Association ♦ Avera McKennan Corporate Health Services ♦ Community Health Services-DOH ♦ Diabetes-DOH ♦ Indian Health Service ♦ Maternal Child Health-DOH Oral Health-DOH ♦ Nutrition and Physical Activity Program-DOH ♦ Rapid City Regional Hospital ♦ SD American Association of Retired People ♦ SD Breastfeeding Coalition ♦ SD Comprehensive Cancer Control ♦ SD Dietetics Association ♦ SD Municipal League ♦ SD Parks and Recreation Association ♦ SDSU Cooperative Extension ♦ SDSU Dietetics ♦ SDSU-Health Promotion ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System ♦ Women, Infants and Children-DOH	♦ Avera McKennan Corporate Health Services ♦ Growing Healthy Initiative
Objective 3.2: By 2008, develop and implement a statewide data collection system to evaluate the impact of South Dakota workplace wellness programs.	♦ Rapid City Regional Hospital ♦ SDSU-Health Promotion ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System	♦ Nutrition and Physical Activity Program-DOH

Community

Objective	Key Partners	Lead Partners
Objective 4.1: By 2010, provide documentation of 25 South Dakota communities that have evaluated their policies and environment concerning healthy eating and physical activity and the changes made to help enhance the community's wellness.	♦ Adult Services and Aging-DSS ♦ American Heart Association ♦ Community Health Services-DOH ♦ Diabetes-DOH ♦ Indian Health Service ♦ Maternal Child Health-DOH Oral Health-DOH ♦ Nutrition and Physical Activity Program-DOH ♦ Rapid City Park and Recreation ♦ Rapid City Regional Hospital ♦ Rural Health-DOH ♦ SD American Association of Retired People ♦ SD Breastfeeding Coalition ♦ SD Comprehensive Cancer Control ♦ SD Dietetics Association ♦ SD Municipal League ♦ SD Parks and Recreation Association ♦ SD State Parks-GFP ♦ SDSU Cooperative Extension ♦ SDSU Dietetics ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System ♦ Women, Infants and Children-DOH	♦ Rapid City YMCA ♦ SD Parks and Recreation Association ♦ Sioux Falls Growing Healthy ♦ Statewide YMCA
Objective 4.2: By 2008, develop and implement a statewide data collection system to evaluate the nutrition and physical activity policies and environment of South Dakota communities.	♦ SD Parks and Recreation Association ♦ Sioux Valley Health System	

Health Care

Objective	Key Partners	Lead Partners
Objective 5.1: By 2007, provide obesity prevention resources and tools to 90% of practicing health care providers in South Dakota.	♦ All Women Count-DOH ♦ Diabetes-DOH ♦ Maternal Child Health-DOH ♦ Midwest Dairy Council ♦ Nutrition and Physical Activity Program-DOH ♦ Rapid City Regional Hospital ♦ SD American Association of Retired People ♦ SD Breastfeeding Coalition ♦ SD Dietetics Association ♦ SD Foundation For Medical Care ♦ SD State Medical Association ♦ SDSU Dietetics ♦ SDSU-Health Promotion ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System ♦ Women, Infants and Children-DOH	
Objective 5.2: By 2010, increase by 75% the proportion of South Dakota medical, nursing, and allied health programs, where appropriate, that include core competencies in obesity prevention, assessment of weight status, and weight management in their curricula.	♦ Nutrition and Physical Activity Program-DOH ♦ SD Nurses Association ♦ SDSU Dietetics ♦ SDSU Nursing ♦ Sioux Valley Health System ♦ USD School of Medicine	

Objective	Key Partners	Lead Partners
Objective 5.3: By 2010, through increased support in health care settings increase to 75% the proportion of infants ever breastfed, to 50% the proportion of infants breastfed at 6 months, and to 25% the proportion of infants breastfed at one year.	♦ Indian Health Service ♦ Rapid City Regional Hospital Lactation Services ♦ SD Association of Healthcare Organizations ♦ SD Breastfeeding Coalition ♦ Sioux Valley Health System	
Objective 5.4: By 2010, decrease by 10% the proportion of South Dakotans already overweight or obese.	♦ All Women Count-DOH ♦ Indian Health Service ♦ Rapid City Regional Hospital ♦ SD Association of Healthcare Organizations ♦ SD Dietetics Association ♦ SDSU Dietetics ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System	
Objective 5.5: By 2010, increase by 50% the proportion of health care systems in South Dakota that support and promote physical activity and healthy eating.	♦ American Heart Association ♦ Child Adult Nutrition Services-DOE ♦ Diabetes-DOH ♦ Indian Health Service ♦ Nutrition and Physical Activity Program-DOH ♦ Oral Health-DOH ♦ Rapid City Regional Hospital ♦ SD American Association of Retired People ♦ SD Association of Healthcare Organizations ♦ SD Dietetics Association ♦ SDSU Dietetics ♦ SDSU-Health Promotion ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System	♦ Sioux Falls Growing Healthy

Objective	Key Partners	Lead Partners
Objective 5.6: By 2007, provide four continuing education credit opportunities annually for health care providers on topics related to obesity prevention, nutrition, physical activity, or health behavior change strategies.	♦ Diabetes-DOH ♦ Indian Health Service ♦ Nutrition and Physical Activity Program-DOH ♦ Oral Health-DOH ♦ Rapid City Regional Hospital ♦ Rapid City Regional Hospital Lactation Services ♦ SD Association of Healthcare Organizations ♦ SD Breastfeeding Coalition ♦ SD Dietetics Association ♦ SD Foundation For Medical Care ♦ SD State Medical Association ♦ Sioux Falls Growing Healthy ♦ Sioux Valley Health System ♦ USD Dietetics Program	♦ Sioux Falls Growing Healthy

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